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# Catalogue of Indian Insects

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## PART 2—Culicidae

FIELD MUSEUM NATURAL HISTORY

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BY

# RONALD SENIOR-WHITE,

F.E.S.,

(Malariologist, the Kepitigalla Rubber Estates, Ltd.)



Issued under the authority of the Government of India.

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8.18.69

E. W. Classey

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## PREFACE.

The growth of our knowledge of the family Culicide has been told so often that there is no need for me to recapitulate it here. Some explanation is however necessary to account for the issuing of a part of the Indian Insect Catalogue dealing with this family so soon after Brunetti's of 1920. The latter covered the whole Oriental Region and the Austro-Malayan subregion in addition, and was strictly systematic in character. The present catalogue is confined to those subregions of the Oriental dealt with in the "Fauna of British India" series, and aims at giving every reference to the mosquitoes of that area, systematic and bionomic, that can be of value to workers in any line of Entomology. With this object a considerable mass of literature has been searched that was not laid under contribution by Brunetti, which has had, among other results, that of broadening the recorded distribution of a good many species from the Malayan to the Indian region. No attempt, however, has been made to catalogue the literature of Indian malaria in regard to aspects other than entomological, since to do so would have been beyond the scope of the Committee responsible for the production of this catalogue.

The arrangement of the catalogue further varies somewhat from that adopted by Brunetti. The synonyms of each species, and the arrangement of these latter within the genus, have been recorded alphabetically, to facilitate ease of reference by workers other than systematists, and the authorities for the recorded distribution of each species are made apparent.

That our knowledge of the Indian Culicid fauna is still very incomplete there can be no doubt whatever. New species still come to knowledge and Malayan species turn up in comparatively well-worked areas such as Ceylon and the Khasis. A thorough investigation of those localities of the Empire with Malayan faunal affinities will almost certainly reveal many more such. No species of the family whatever are recorded from the Nicobars and the Maldives. The family is now represented by 28 genera containing a total of 160 valid species and varieties.

In regard to synonomy, I took advantage of the visit of Major Christophers, C.I.E., I.M.S., of the Central Malaria Bureau, Kasauli, to the Fourth Entomological Meeting at Pusa in February 1921, to discuss with him in detail the whole of the synonomy now adopted, and would express my great appreciation of his readily accorded help and criticism.

In regard to the systematic order of the genera this can only be adequately conceived of by a worker with a knowledge of world forms, to which the author, whose studies have been entirely confined to the Indian Region, cannot aspire; I am greatly indebted therefore to Mr. H. F. Carter, Government Malariologist, Ceylon, for assistance in this matter. Mr. Carter's long experience with the mosquitoes of all the world at the Liverpool School of Tropical Medicine gives great weight to any opinion regarding such that he may express, and my best thanks are hereby tendered to him.

SUDUGANGA, CEYLON: 20th November 1921.

R. SENIOR-WHITE.

Note.—Since this Catalogue was sent to the press, Mr. F. W. Edwards has published, in the Indian Journal of Medical Research, Vol. X, Nos. 1 and 2 (July and September 1922), a Synopsis of adult Oriental Culicinæ, containing Keys to genera and species and descriptions of several new Indian species. It has not been practicable to include references to this paper, to which workers on Indian Culicidæ are referred, and the present part of the Catalogue may be taken as complete to the year 1921 inclusive —T. B. F.

## Catalogue of Indian Insects.

## Part 2—CULICIDÆ.

Giles, Bom. Jo. XIII, 603-610, [Prodromus]; Brun. R. I. M., X. 1-73, [Review of genera].

GENERAL ACCOUNT OF INDIAN —. Howlett, Ind. Ins. L. 564-575; Fletcher, S. Ind. Ins. 177-183, figs., [list of S. Ind. spp.]; Patton and Cragg, T. B. Med. Ent. 187.

Anatomy of—. Patton and Cragg, T. B. Med. Ent. 29, tab VII, (mouth parts); 74, [thorax]; 81, [Venation]; 109, [oesophagus]; 120, [salivary glands]; 133, [male genitalia]; 137, [female genitalia]; 195, [eggs]; 419, [dissection]; Prashad, I. J. Med. R. III. 503, Pl., [halteres]; id. loc. cit.; III. 497. 2 Pl., [male genitalia]; Ralph., Proc. Linn. Soc. I (1) ii, (1856) [mouth parts]; Edw., Ann. Trop. Med. Paras. XIV. 23-40, 2ff., [male hypopygium nomenclature]; Wesché, B. Ent. R. I. 7, [diagnostic points in larvæ and pupæ].

Bionomics of —. Patton and Cragg, T. B. Med. Ent. 266, [collection, identification, feeding]; Sen, I. J. Med. R., II. 681, [respiration]; id. loc. cit.: IV. 279 and Pusa Sci. Rpts. (1919-20) 103, [blood in ovulation]; Blacklock and Carter, Ann. Trop. Med. Paras. XIV. 115-126, figs. and Pl., [tree-hole breeders and descript. of collecting apparatus for such]; Balfour, B. Ent. R. XII, 29, [Saline water breeders, bibliography]; Martini, Arch. Schiffs. u. Trop. Hyg. XXV. 120-121, [artificial breeding]; Davis, Ent. News, XII, 185 (1901), [distance travelled]; Macfie, B. Ent. R., VII 277-295, [larval respiration];

Enemies, Parasites and Control.—Wilson, I. J. Med. R., I. 691, [fish]; Hodgson, loc. cit; II. 405, [fish of Delhi]; Green, Trop. Ag. XXVIII. 297, [Ceylon duckweeds]; Nicholls, B. Ent. R., I. 213, [natural enemies]; Graham, loc. cit., II. 137, [fish of Nigeria]; Macfie, loc. cit., VII, 277-295, [limits of kerosine]; Howlett, Pusa Sci. Rpt. (1912-13) 81, [calomel as larvicide]; Sharma, loc. cit., (1919-20), 105, [repellents]; Campbell, Trop. Ag. XLII, 508-512, [eradication by bats]; Stevens & Wenyon, T. Vet. B. III, 129, [Lankesteria culicis]; Novy, McNeal, and Torry, Jl. Infec. Dis., IV. 223-276, (abst. J. Trop. Vet. Sci. III. 97, 99), [trypanosomas of —].

Species Lists.—Bentley, Malaria in Bombay, 62, [Bombay]; Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 8-17, (abst. R. A. E. [B], IX, 124-125, [Calcutta]; Senior White, loc. cit., VIII, 304, [Ceylon Rubber Estate]; Cruickshank & Wright, loc. cit., I. 741, [Cochin]; James, loc. cit., II. 227, Pl. [Colombo]; Macfarlane, B. Ent. R., VI. 67, [Hong Kong]; Iyenger, loc. cit., VII, Spl. Sci. Cong. No., 26, [Indore]; Barraud, B. Ent. R., X 323, [Lower Mesopotamia]; Edw., loc. cit., XI, 133, [Mauritius, etc.]; Barraud, loc. cit., XI, 387, [Palestine]; Dyar, Ins. Ins. Mens., VIII. 175-186, [Philippines]; Stanton, B. Ent. R., X, 333, [Ports of Fai East]; Fletcher, Pusa Sci. Rpt. (1915-16), 83 [Pusa]; Green, Spol. Zeyl. IV, 183, [Trincomali].

## CHAOBORINÆ (Corethrinæ).

Giles, Handbook, 2nd. edn., 500; Brun. R. I. M., IV. 317, 504; id. *loc. cit.*, VI. 227; Patton and Cragg, T. B. Med. Ent., 190, [Key to genera].

## 1. Chaoborus, Lichtenstein.

Chaoborus, Licht., Arch. Zool. I, 174 (1800). [Genotype, Tipula plumicornis, F. as antisepticus, Licht.]. Brun. R. I. M. XVII, 184.

Corethra, Meig., Illig. Mag. II, 260, (1803).
Sayomyia, Coq., Can. Ent. XXXV, 189, (1903). [Genotype, C. punctipennis, Say.]. Theo., Gen. Ins. fasc. XXVI, 42; Brun., R. I. M. I. 368; id. loc. cit. X. 71; id. loc. cit. XVII, 184.

#### manilensis, Schiner.

Corethra manilensis, Sch., Novara Reise, 30. 1. (1868)<sup>1</sup>; Wulp, Cat. Dipt. S. Asia, 34<sup>2</sup>; Giles, Handbook, 360; id. loc. cit. (2nd. edn.) 504.

Sayomyia manilensis, Brun. R. I. M., I. 368.

Chaoborus manilensis, Edw., B. Ent. R., IV, 242; Prashad, R. I. M., XV, 154, Pl. XIX, ff. 1-7 [early stages]; Brun. R. I. M., XVII, 1843.

<sup>3</sup> Bengal.

<sup>3</sup> Shahjahanpur.

<sup>3</sup> Satara dist.

<sup>1</sup>, <sup>2</sup>, <sup>3</sup> Philippines.

Corethra asiatica, Giles, Bom. Jo., XIII, 610, (1901); Brun. R. I. M., I. 368; Theo., Monog. Culic. II. 294, fig.; Giles, Handbook, (2nd. edn.), 506. Chaoborus asiatica, Brun., R. I. M., IV, 505.

## 2. Corethrella, Coquillet.

Corethrella, Coq., Jo. N. Y. Ent. Soc., X, 191, (1902); [Genotype, C. brakeleyi, Coq.]. Brun., R. I. M., XVII, 185.

Ramcia, Annand., Spol. Zeyl., VII, 187, (1911). [Genotype, R. inepta, Ann.].

inepta, Annandale.

Ramcia inepta, Ann., Spol. Zeyl., VII, 189, figs. and Pl. [larva, etc.], (1911); <sup>1</sup> Macdougall, loc. cit., VIII, 71, [notes]. Corethrella inepta, Brun., R. I. M., XVII, 185<sup>2</sup>.

<sup>1</sup>, <sup>2</sup> Diyatalawa.

#### CULICINÆ.

Theo., Gen. Ins. Fasc., XXVI, 26, 30; id., Monog. Culic., IV, 19, 147, [tab. genera]; id., loc. cit., V, 112 [tab. genera]; Blanch., Moustiques, 152, 231, 390, [tab. genera]; Giles, Handbook, (2nd. edn.) 334, [tab. genera]; Leic., Culic. Malaya, 64; Alcock, Ent. Med. Off., 94; Brun., R. I. M., I., 326; id., loc. cit., IV, 349; Edw., B. Ent. R., II, 241, [tab. African genera]; Patton and Cragg, T. B. Med. Ent., 192, 205, [classification].

#### ANOPHELINI.

Anophelini, Brun., R. I. M., X, 32, [notes, tab. genera]; Chris., I. J. Med. R., III, 454-488, [Key to Indian spp., synonomy].

Anophelinæ, Theo., Gen. Ins. Fasc., XXVI, 5; id., Monog. Culic., IV, 18-22, (tab. genera]; id. loc. cit.: V, 1, [tab. genera]; Blanch., Moustiques, 157, 159,

[tab. genera]; Leic., Culic. Malaya, 18, [tab. genera]; Brun., R. I. M., I, 302; id., loc. cit., IV, 414; Chris., Ann. Trop. Med. Paras. VII, 1, (1913) [divides into three groups]; id., Proc. Ind. Sanit. Conf., V, 1-5.

Anophelina, Theo., Monog, Culic. I, 97; id., loc. cit., III, 9; Giles, Handbook, (2nd edn.), 280; id., Revision of Anopheline, (London, 1904); Patton and Cragg, T. B. Med. Ent. 220 [Key to sub-genera], 256 [bionomics].

Anophelines, How., Dyar and Knab, Mosq. N. Amer, III, Pt. I, 193; James and Liston, Mon. Anph. Mosq. of India, (two editions).

Epialurgi, Alcock, Ent. Med. Off. 64.

## 3. Anopheles, Meigen.

SYSTEMATICS.

Anopheles, Mg., Syst., Besch., I, 10, (1818); [Genotype, A. maculipennis, Mg.]. R. D., Mem. Soc. H. Nat., III, 410; Mq., H. N. Dipt., I, 32; Zett., Dipt. Scand, IX, 3466; Sch., F. Aust., II, 624; Kert., Cat. Dipt., I, 250; Brun., R. I. M., I, 302; Edw., B. Ent. R., II, 141, [nomenclature, sub-genera]; Steph. and Chris., Rpt., Malaria. Commn., VII, 3-14, 4 Pl. [classification]; Chris., I. J. Med. R., III, 454-489, (1916) [Revision; Key to spp.]; Brun., R. I. M., XVII, 92-95, [cat. Oriental spp.].

Aldrichia, Theo., Monog. Culic. III. App. 353, (1903); [Genotype, A. error, Theo.]; id., Gen. Ins., Fasc., XXVI, 11; Blanch., Moustiques, 624; Brun., R. I. M., I, 322; id., loc., cit., X, 55.

Aldrichinella, Theo., Monog. Culic. V, 77, (1910) [nom. nov. for Aldrichia,

præocc.]; Brun., R. I. M., IV, 433; id., loc. cit., X, 55.

Arribalzagia, Theo., Monog. Culic. III, 81, (1903); [Genotype, A. maculipes, Theo.]; Alcock, Ent. Med. Off., 177.

Cellia, Theo., Monog. Culic. III, 107, (1903); [Genotype, A. pharoensis, Theo.]; id., loc., cit., IV, 105, [list and tab. spp.]; id., loc. cit., V, 67, [tab. spp.]; id., Gen. Ins. Fasc. XXVI, 11; Blanch., Moustiques, 214; James, R. I. M., IV, 102; Leic., Culic. Malaya, 46; Alcock Ent. Med. Off., 90; Brun., R. I. M., I, 321; id., loc., cit., IV, 431, id., loc., cit., X. 57.

Christophersia, James, R. I. M., IV. 103, (1910); [Genotype, C. halli, J.]; id.,
Paludism, I. 33, (July, 1910, nom. nud.); Brun., R. I. M., IV, 431; id.,

loc. cit., X. 57.

Christya, Theo., Rpt. R. S. Sl. Sick.
Comn., VII, 34, (1903); [Genotype,
C. implexa, Theo.]; Giles, Revis.,
Anoph., 40; Alcock, Ent. Med. Off.,
77.

- Coelodiazesis, Dyar and Knab, Jo. N. Y. Ent. Soc., XIV, 77, (1906); [Genotype, A. barberi, Coq. [Erected on larval chrs. only].
- Cycloleppteron, Theo., Monog. Culic. II, 312, (1901); [Genotype, A. grabhamii, Theo.]; id., J. Trop. Med. IV., 234, (1901, nom. nud.).
- Cyclolepidopteron, Blanch., Moustiques, 185 (1905) [Cycloleppteron, emend.].
- Dactylomyia, News. and Cart., Ann. Trop. Med. Paras., IV. 377, (1910); [Genotype, D. ceylonica, N. and C.].
- Feltinella, Theo., Monog. Culic. IV, 56, (1907); [Genotype, F. pallidopalpis, Theo.].

Grassia, Theo., Jo. Trop. Med. V, 181, (1902); [Genotype, A. rossii, Giles.]

Howardia, Theo., Jo. Trop. Med. V, 181, (1902); [Genotype, A. costalis, Lw.].

Kerteszia, Theo., Ann. Mus. Hung., III,
66, (1905); [Genotype, K. boliviensis,
Theo.]; id., Monog. Culic. IV, 117;
Brun., R. I. M., IV. 431; id., loc. cit.,
X, 63.

Laverania, Theo., Jo. Trop. Med. V, 181, (1902); [Genotype, A. argyrotarsis, R. D.].

Lophomyia, Giles, Jo. Trop. Med. VII, 366, (1904); [Genotype, Lophoscelo-

myia asiatica, Leic.].

Lophoscelomyia, Theo., Entom., XXXVII, 12, (1904); [Genotype, Lophoscelomyia asiatica, Leic.]; Blanch., Moustiques, 635; Theo. Monog. Culic., IV, 91; Leic., Culic. Malaya, 21; Brun., R. I. M., IV, 427; id., loc. cit., X, 64.

Lophocelemyia, Theo., Gen. Ins. fasc. XXVI, 10, [laps.]; Brun., R. I. M., I, 316.

Manguinhosia, Cruz in Peryassu, Os. Culic. Brazil, 112, (1908); [Genotype, M. lutzi, Cruz.].

Memnemyia, Strick., I. J. Med. R. III, 201, (1905); [Genotype, A. brevipalpis,

Rop.].

Myzomyia. Blanch., C. R. Soc. Biol., LIV, 795, (1902); [nom. nov. for Grassia, præocc.]; Theo. Monog. Culic., III, 12, 24; id., loc. cit., IV, 41, 42, [tab. spp.]; id., loc. cit., V, 16, [tab. spp.]; id., Gen. Ins. Fasc. XXVI, 7; Blanch., Moustiques, 177; James and List., Mon. Anoph. Ind. (2nd. edn.) 40; James, R. I. M., IV, 98; Leic., Culic. Malaya, 23; Alcock, Ent. Med. Off.

79; Brun., R. I. M., I, 305; id., loc. cit., IV, 417; id., loc. cit., X, 66.

Myzorhynchella. Theo., Monog. Culic., IV, 78, (1907); [Genotype, M. nigra,

Theo.].

Myzorhynchus, Blanch., C. R. Soc. Biol., LIV. 795, (1902); [nom. nov. for Rossia, præocc.]; Theo., Monog. Culic., III, 84, Pl. V; id., loc. cit., IV, 81, [list and tab.]; id., loc. cit., V, 49, [list and tab.]; id., Gen. Ins. fasc. XXVI, 9; Blanch., Moustiques, 190; James, R. I. M., IV, 102; Leic., Culic. Malaya, 29, (Myzorhyncus); Strick., B. Ent. R. IV., 135-142; [M. group in Malaya]; Alcock, Ent. Med. Off. 74; Brun., R. I. M., I, 313; id., loc. cit., IV, 424; id., loc. cit., X, 66.

Neocellia, Theo., Monog. Culic. IV,
111, (1907); [Genotype, N. indica,
Theo.], id., loc. cit., V, 73, [tab. spp.];
James, R. I. M., IV, 101; Brun., loc. cit., IV, 432; id., loc. cit., X, 66;

Alcock, Ent. Med. Off. 89.

Neomyzomyia, Theo., Monog. Culic. V,
 29, (1910); [Genotype, A. elegans,
 James]; James, R. I. M., IV, 109;
 Brun., loc., cit., IV, 417; id., loc. cit.,
 X, 68.

Neostethopheles. James., R. I. M., IV, 98, (1910) [Genotype, A. aitkeni, James]. James and List., Mon. Anoph. Mosq. Ind., 2nd. edn. 40; Brun., R. I. M., IV, 422; id., loc. cit., X, 67.

Nototricha, Coq., Class. Mosq. N. Amer., 12, (1906) [Genotype, Cycloleppteron

mediopunctatus, Theo.].

Notonotricha, Theo., Monog. Culic., V,

33, (1910); [Emend].

Nyssomyzomyia, James, R. I. M., IV, 101, (1910) [Genotype, N. rossii, Giles, præocc. in Myzomyia]; James and

List., Mon. Anoph. Mosq. Ind. (2nd. edn.) 43; Brun., R. I. M., IV, 422; id., loc. cit., X, 67.

Nyssorhynchus, Blanch., C. R. Soc. Biol. LIV, 795, (1902) [nom. nov. for Laverania, præocc.]; Theo., Monog. Culic., III, 92, Pl. V; id., loc. cit., IV, 95, 96, [list and table spp.]; id., Gen. Ins. fasc., XXVI, 10; Blanch, Moust., 202; James and List., Monog. Anoph. Mosq. Ind., (2nd. edn.) 43; James R. I. M., IV, 100; Leic., Culic. Malaya, 39; Brun., R. I. M., I, 317; id., loc. cit., IV, 428; id., loc. cit., X, 67; Alcock, Ent. Med. Off., 85.

Patagiamyia, James, R. I. M., IV, 98, (1910) [Genotype, A. gigas, Giles.];
 James and List., Mon. Anoph. Mosq. Ind., (2nd. edn.) 41;
 Brun., R. I. M., IV, 417;
 id., loc. cit., X, 68.

Pyretophorus, Blanch., C. R. Soc. Biol., LIV, 795, (1902) [nom. nov. for Howardia, præocc.]; Theo., Monog. Culic., III, 66; id., loc. cit., IV, 63-64, [List and tab. spp.]; id., loc. cit., V, 36, [tab. spp.]; id., Gen. Ins. fasc. XXVI, 8; Blanch., Moustiques, 186; James and List. Mon. Anoph. Mosq. Ind., (2nd. edn.), 41; James, R. I. M., IV, 99; Brun., loc. cit., I, 312; id., loc. cit., IV, 423; id., loc. cit., X, 70; Leic., Culic. Malaya, 37.

Rossia, Theo., Jo. Trop. Med., V, 181, (1902) [Genotype, A. sinensis, Wd.].

Stethomyia, Theo., Jo. Trop. Med., V, 181, (1902) [Genotype, S. nimba, Theo.]; id., Monog. Culic. III, 62. Pl. VIII; id., loc. cit., IV, 59, [tab. spp.]; id., loc. cit., V, 35, [tab. spp.]; id., Gen. Ins. fasc. XXVI, 8; Blanch, Moustiques, 186; Brun., R. I. M., I,

312; id., loc. cit., IV 423; id., loc. cit., X, 72.

## ANATOMY.

Prashad, I. J. Med. R., V, 610, pl. LVII-LXI, [Thorax and Wing]; id., loc. cit., V, 641, [imaginal buds of thorax]; Patton and Cragg, T. B. Med. Ent., 120, [salivary glands]; 148, [nervous system]; 195, [egg]; Chris., I. J. Med. R., III, 371, 6 pl., [male genitalia]; id., loc. cit., III, 362, pl., [pilotaxy]; Steph., B. Ent. R., II, 1-8, 5 figs., [dis-section for parasites].

#### LARVÆ.

Steph. and Chris., Rpt. Malaria Comn. VII, 3-14, 4 pl., [notes]; Stanton, B. Ent. R., III, 387, [changes during growth]; id., loc. cit., VI, 159-172, 15 figs. [descriptions, Key to Malayan spp.]; Patton and Cragg, T. B. Med. Ent., 204, [Key to Indian spp.]; James and List., Monog. Anoph. Mosq. Ind., (2nd. edn.), 57-58 [do]; Zetek, B. Ent. R. XI, 73, [breeding among water-lettuce]; Lamborn, loc. cit., XII, 91 figs., [caudal tufts of Maiayan]; Hacker, F. M. S. Mal. Bur. II, Rpt., 25-28, [in artificial coll. of water]; id., loc. cit., [in delta]; id., loc. cit., II, 45-47, [among mangroves]; Ghosh in Fry, Malaria in Bengal, app. ii, [in rice fields].

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256, [favourite breeding grounds]; Hacker, F. M. S. Mal. Bur. II Rpt., 7-9, 11, 12, 13, 23, [group associations with various kinds of water]; Geiger, etc., J. Amer. Med. Ass., LXXII, 844-847, [flight experiments];

#### PREDATORS, ETC.

Sinton, I. J. Med. R. V, 192, pl. XXX, [Trematode parasite]; Soparkar, loc. cit., V, 512, [do]; Southwell, Ann. Trop. Med. Paras. XIV 181-186, [fish].

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Med. R., VIII 29-32, 2 maps, [antimalaria operations at Busra].

## Species Lists.

Chris., Sci. Mem. M. O. Ind., LVI, 6-7, [Andamans]; Chris. & Chand, I. J. Med. R., III, 180, [Arabia; with synonomy of Patton's spp.]; Fry, Malaria in Bengal, 11, [Bengal]; Roper, I. J. Med., R. V., 137-147, 2 maps, [Br. N. Borneo]; Evans & Rennie, Jo. Trop. Vet., Sci., V, 240-256, [Burma]; Chalmers, Spol. Zeyl., II, 165-178, 10 figs., [Ceylon]; Fry, Malaria in Bengal, 29, 30, [Chota Nagpur]; Acton, etc., I. J. Med. R., VIII, 751-752, [Dagshai]; Hodgson, loc. cit., II, 405, 6 pl., map and figs., [Delhi]; Ghosh in Fry, Malaria in Bengal, app. i, [Dum Dum]; Swell. and de Graaf, Tijd. V. Ent., LXIII., 96, id., B. Ent. R. XI, 77, [Dutch East Indies]; de Sá, Bol. Geral. Med. Farm., V, (8), 290-294, (abst. R. A. E. (B), IX, 6), [Goa]; Cogill, Bom. J., XV, 327-336, [India]; Perry, I. J. Med. R., II, 456, pl. and figs., [Jeypore Hill Tracts]; Gill, loc. cit., VII, 610-617, [Kashmir]; Sinton, loc. cit., V, 195, [Kohat]; Hacker, F. M. S. Mal. Bur., II Rpt., 5, [Kuala Lumpur]; Gunasekera, Ceylon S. P. 37 of 1913, 7, [Kurunegalla]; Hodgson, I. J. Med. R., I, 702, [Madras city]; Stanton, Jo. Lon. Sch. T. Med., ii, (1913), [Malaya]; id., I. J. Med. R., I. 203, [Malaya]; Hacker, F. M. S. Mal. Bur. Rpt. I, [Malaya; many bionomic notes]; Chris. & Chand, I. J. Med. R., III, 180, 2 pl., [Mescpotamia]; Chris. & Short, loc. cit., VIII, 516-529, [Mesopotamia]; Chris., loc. cit., VII, 710, 3 maps [Middle

East; Synonomy]; Aitken, Trop. Med., V, 325-6, 341-2, [North Kanara]; Sinton, I. J. Med. R. V, 204, [Parachinar]; de Mello and de Sá, Arquiv. Ind. Port. Med. Hist. Nat., I, 1-10, pl. 1-4, [Portuguese India]; Chris., Sci. Mem. M. O. Ind., XLVI, 75-89, [Punjab]; Chris. & Chand, I. J. Med. R., III, 638 [South India]; Kenkenschrijven, Gens. Tijd. Ned. Ind. LXI, 202, [abst. R. A. E. (B) IX, 135] [Sumatra]; Sinton, I. J. Med. R. V, 204, [Thal]; Gill & Singh, Supt. Govt. Print. Lahore, 1920; [abst. R. A. E. (B), IX, 130], [Thanesar Town].

## aitkeni, James.

Anopheles aitkeni. James in Theo. Monog. Culic., III, 22, (1903)<sup>1</sup>; James & List., Monog. Anoph. Mosq. Ind., 119, pl. IX, 3, pl. XIII; Blanch. Moustiques, 620; Brun. R. I. M. I. 3032; id., loc. cit., IV, 415; id., loc. cit., XVII, 110<sup>3</sup>; Chris., I. J. Med. R., III, 461<sup>4</sup>; Stant., Jo. Lon. Sch. Trop. Med., II (1) 4; Alcock, loc. cit., II (3) 139; Theo., R. I. M., II, 287<sup>5</sup>; Stanton. B. Ent. R., VI, 163, [larva]; Patton and Cragg, T. B. Med. Ent. 228; Strick., I. J. Med. R., IV, 259, [not biting man]; Hacker, F. M. S. Mal. Bur. I Rpt. 73, [index to numerous refs.]; id., loc. cit., II Rpt. 21, [faunal associations]; Swell., B. Ent. R., XI, 916, [distrib. in D. E. Ind.].

Anopheles aitkeni var. insulaeflorum., Swell, B. Ent. R., XI, 81, (1920), fig. [larval variety only].

Anopheles aitkeni var. papuæ., Swell., B. Ent. R., XI, 81-82 (1920), [larval variety only].

<sup>1</sup>, <sup>2</sup>, <sup>3</sup> Karwar.

<sup>2</sup>, <sup>3</sup> Goa Frontier.

3, 5 Bengal Duars.

<sup>3</sup>, <sup>4</sup> Nilgiris. <sup>3</sup> Bengal.

3, 4 Assam.

3, 4 Burma.

<sup>4</sup> W. Coast of S. India. Matale-Kurunegalla (Ceylon) (White).

<sup>3</sup>, <sup>9</sup> Philippines.

<sup>7</sup>, <sup>8</sup> F. M. S. widely. <sup>6</sup> Malayan Archip.

Neostethopheles aitkeni, James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 59, figs.

. Stethomyia Theo. fragilis, Entom., XXXVI, 257 (1903); Brun., R. I. M., I, 3128; id., loc. cit., IV, 423; Patton & Cragg, T. B. Med. Ent. 237.

Stethomyia pallida, Ludl., Can. Ent., XXXVII, 129, (1905); Brun., R. I. M. I, 3129; id., loc. cit., IV, 423.

Anopheles treacheri, Leic., Culic, Malaya, 19, (1908); Brun., R. I. M., IV, 4177; id., loc. cit., XVII, 113.

annandalei, Prashad.

Anopheles annandalei, Prashad, R. I. M., 1, 2 Darjiling. XV, 123, pl. XVII, (1918)<sup>1</sup>; Brun., loc. cit., XVII, 1142.

#### asiaticus. Leicester.

Lophoscelomyia asiatica, Leic., Entom., XXXVII, 13, (1904)<sup>1</sup>; Theo., Monog. Culic., IV, 92; Brun., R. I. M., I, 317; id., loc. cit., IV, 427; Leic. Culic. Malaya, 21.

Lophomyia asiatica, Giles, Jo. Trop. Med., VII, 366.

Myzorhynchus asiaticus, Strick., B. Ent. R., IV, 141.

Anopheles asiatica, Chris. I. J. Med. R., III, 462; Brun., R. I. M., XVII, 113; James, I. J. Med. R., II, 263.2

Anopheles asiaticus, Strick. Parasitology, VII, 12, [larva] Stanton, B. Ent. R., VI, 164, [larva]; Patton and Cragg, T. B. Med. Ent., 237; Lamborn, B. Ent. R., XII, 93, figs. [larva and pupa]; Hacker, F. M. S. Mal. Bur., 23, [faunal II. Rpt., associations].

<sup>2</sup> Ceylon.

<sup>1</sup> Kuala—Lumpur.

barbirostris, van der Wulp.

Anopheles barbirostris, Wulp, Notes Leyd. Mus., VI, 248, 19 (1884); id., Tijd. V. Ent., XXVII, 79, pl. IV, 1; Theo. Monog. Culic. I, 146, 151, ff. 33, 34, pl. A; Giles, Handbook, 2nd edn., 308, pl. VIII, 13a; James and List., Anoph. Mosq. Ind. 77, pl. X, 1 pl. V, pl. II; Roper, B. Ent. R. V, 146; Stanton, I. J. Med. R. III, 25313; Chris., loc. cit., III, 462; Brun., R. I. M. XVII, 97<sup>9</sup>; Chatterjee, R. I. M. I, 82<sup>1</sup>; Wilson, I. J. Med. R. I, 691<sup>2</sup>, [breeding places]; Hodgson, loc. cit., II, 4114; James, loc. cit., II, 2635; Perry, loc. cit., II, 46910; Iyengar, loc, cit., VII, Sci., Cong. No. 2611; Stanton B. Ent. R., VI, 165, [larva]; id., loc. cit., X, 333, [distribution in far Eastern ports]; Patton and Cragg, T. B. Med. Ent. 235; Ross, Prevention of Malaria, 632, [doubtful carrier]; Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 98; de Sá, Bol. Geral. Med. Farm, V. (8) 290-415; Enderl. Wien. Ent. Zeit., XXXVIII, 47<sup>16</sup>; White, I. J. Med. R., VIII, 319<sup>17</sup>; Hacker, F. M. S. Mal. Bur. Rpt., I, 73, [Index to numerous refer.]; Kenk., Gen. Tijd. Ned. Ind., LXI, 20214, [bionomics, not found infected]; Hacker, F. M. S. Mal. Bur. Rpt., II, 9, 17, [faunal associations].

Myzorhynchus barbirostris, Theo. Monog. Culic., III, 86, f. 25, pl. iii; id. Gen. Ins., Fasc., XXVI, pl. i, 3; Blanch., Moustiques, 197; James & List. Monog. Anoph. Mosq. Ind. (2nd edn.), 118-119, pl. XIV; Brun., R. I. M. I, 314<sup>6</sup>; id., loc. cit., IV, 424; Theo. loc. cit., II, 288<sup>7</sup>; Cruick. & Wright, I. J. Med. R., I, 773<sup>3</sup>; Gunasekera, Ceylon S. P., 37 of 1913, 7<sup>18</sup>.

1, 6, 7, 8 Calcutta dist

<sup>2</sup> Madras.

3, 15 Malabar Coast.

<sup>6</sup> Kanara.

6, 9 Assam.

6, 9 Upper Burma.

<sup>6</sup> Lahore.

<sup>4</sup> Delhi.

<sup>6</sup> Bombay.

<sup>11</sup> Indore.

<sup>10</sup> Jeypore Hills.

9 Andamans.

5, 12, 17, 18 Ceylon.

<sup>9</sup> F. M. S.

9, 13, 14, 20 Sumatra.

<sup>9</sup> Philippines.

<sup>9</sup> Siam.

<sup>9</sup> Japan.

<sup>16</sup> Madagascar.

<sup>9</sup> W. Africa.

19, 20 Java.

<sup>20</sup> E. Malaysic.

Myzorhyncus barbirostris, Leic. Culic.
 Malaya, 33; Chalmers, Spol. Zeyl., II,
 168<sup>12</sup>, [Ceylon distribution]; Green,
 loc. cit., IV, 183.

Myzorhynchus barbirostris var. pallidus, Swell., B. Ent. R., XI, 82, 86-87<sup>20</sup>, fig. (1920), [larval variety only].

## barianensis, James & Liston.

Anopheles barianensis, James & List., Monog. Anoph. Mosq. Ind. (2nd edn.), 76<sup>1</sup>; Brun., R. I. M., IV, 415; Patton & Cragg. T. B. Med. Ent., 230.

Anopheles plumbeus, Chris., (nec. Steph.)
I. J. Med. R., III, 475, 489-496, pl.
XXVIII, [larva<sup>2</sup>].

<sup>1</sup> Murree Hills.

<sup>2</sup> N.-W. Himalaya.

## culicifacies, Giles.

Anopheles culicicies, Giles, E. M. M., XXXVII, 197, (1901), [female only, male renamed turkhudi, List., 1901]. Theo., Monog. Culic. II, 309, [female nec. male, (t. Theo., loc. cit., III, 48)]; Giles, Handbook, (2nd. edn.) 317, pl. IX, 12, [female nec. male]; James & List. Anoph. Mosq. Ind. 106, pl. IX, 1, pl. VIII, 1, pl. XI; Chris., I. J. Med. R. III, 4631; Brun., R. I. M., XVII, 101<sup>2</sup>; Chalmers, Spol. Zeyl. II, 168<sup>3</sup>, [Ceylon distribution]; Edw., B. Ent. R. III, 248; Wilson, I. J. Med. R., I, 6914, [breeding places]; Hodgson, loc. cit., II, 411<sup>5</sup>; Perry, loc. cit., II, 469<sup>6</sup>; Gill, loc. cit., IV, 2077; Sinton, loc. cit., V, 192, [parasite]; id., loc. cit., V, 197. 201, 2088, [varieties]; Iyengar, loc. cit., VII, Sci., Cong., No. 269; Chris. loc. cit., VII, 711<sup>10</sup>; Gough. B. Ent. R. V, 134<sup>11</sup>; Patton & Cragg., T. B. Med. Ent. Pl. XXXIV, 10 [egg], Pl. XXXVIII, 2, [imago], 229; Fletcher, Pusa. Sci. Rpt. (1915-16),

<sup>1</sup>, <sup>2</sup> Burma.

<sup>1</sup> Assam.

3, 5, 18 Punjab.

<sup>6</sup> Jeypore Hills.

<sup>3</sup> Central Prov.

<sup>3</sup>, <sup>9</sup> Central India.

, 3, 4 Madras.

<sup>3</sup> United Prov.

12 Bihar.

<sup>3</sup> N. Bengal.

<sup>8</sup> N.-W. F. P.

13 Bombay.

15 Goa.

3, 16, 17 Ceylon.

<sup>2</sup>, <sup>19</sup> Algeria.

<sup>11</sup> Egypt.

<sup>2</sup>, <sup>14</sup> Palestine.

<sup>11</sup> Cyprus.

<sup>7</sup> Muscat.

<sup>10</sup> Aden.

Bentley, Malaria in Bombay<sup>13</sup>; Ross, Prevention of Malaria, 631 [carrier]; de Sá, Bol. Geral. Med. Farm, V (8), 290-294<sup>15</sup>; White, I. J. Med. R. VIII, 315<sup>16</sup>.

Anopheles culiciacies var. sergenti, Barraud, B. Ent. R. XI, 392, (1921)<sup>14</sup>.

Myzomyia culicifacies, Theo., Proc. R.S., LXIX, 379; id. Monog. Culic., III, 39, figs., Pl. iii, Pl. VIII; id., loc. cit., IV, 51; id., loc. cit., V, 25; Blanch., Moustiques, 182; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 69, Pl. III, Pl. X, 1; Brun., R. I. M., I, 305³; id. loc., cit.; IV, 404, 418; Gunasekera, Ceylon S. P. 37 of 1913, 7¹7, [parasites].

Myzomyia culicifacies var. punjabensis, James & List., Monog. Anoph. Mosq. Ind., 2nd. edn., 72, figs. 18, (1911).

Anopheles indicus, Theo., Monog. Culic., I, 183, (1901); Giles, Handbook, (2nd. edn.), 320.

Anopheles listoni, Giles [nec. Liston], E. M. M., XXXVII, 197, (1901); id., Handbook, (2nd. edn.), 319, Pl. X, 4; Theo., Monog. Culic., II, 311, app.

Pyretophorus sergenti, Theo., Monog. Culic., IV, 68, f. 16<sup>19</sup>, (1907).

### culiciformis, Cogill.

Anopheles culiciformis, Cog., Bom. Jo., XV, 333<sup>1</sup>, (1903); James & List., Monog. Anoph. Mosq. Ind., 122, Pl. XV; Chris. I. J. Med. R., III, 463; Brun., R. I. M., XVII, 112; Patton & Cragg, T. B. Med. Ent., 228; Blacklock & Cart, Ann. Trop. Med. Paras., XIII, 422.

Coelodiazesis culiciformis, Chris. & Chand, I. J. Med. R., III, 638, Pl. LIX, [all stages described].

<sup>1</sup> Karwar.

Stethomyia culiciformis, Theo. Monog. Culic., IV, 62; Brun., R. I. M., I, 312; id., loc. cit., IV, 423.

Neostethopheles culiciformis, James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.) 61, figs.

#### fuliginosus, Giles.

Anopheles fuliginosus, Giles, Handbook, 160, (1900); id., loc. cit., (2nd. edn.), 298, Pl. VIII, 7; Theo. Monog. Culic., I, 132, ff. 27, 28, Pl. I, 3; James, Sci. Mem. Med. Off. Ind., II, 39, f. 18; James & List. Anoph. Mosq. Ind., 91, Pl. V, 2, Pl. X, 4, Pl. V; Chris. I. J. Med. R., III, 464; Chalmers, Spol. Zeyl., II, 169, [Ceylon destribution]; Green, loc. cit., IV, 183; Brun., R. I. M., XVII, 98-99; Sinton, I. J. Med. R., V, 197, 202, 2086, [varieties]; Theo., R. I. M., II, 28811; Wilson, I. J. Med. R., I, 691<sup>2</sup>, [breeding places]; Gill, loc. cit., II, 268, [minimum biting temp.]; Hodgson, loc. cit., II, 411<sup>3</sup>; James, loc. cit., II, 263<sup>4</sup>; Perry, loc. cit., II, 469<sup>5</sup>; Iyengar, loc. cit., VII, Sci. Cong., No. 267; Stanton, B. Ent. R., VI, 166, [larva]: id., loc. cit., X, 333, [distribution in Far Eastern Ports]; Patton & Cragg., T. B. Med. Ent., 232, Pl. XXXIV, 8, [egg], Pl. XXXVII, [imago]; Fletcher, Pusa Sci. Rpt. (1915-16), 838; Dyar, Ins. Ins. Mens., VIII, 1849; Fry, Malaria in Bengal, 11, [varieties], app. i, Cht. 16; Ross, Prevention of Mala-[doubtful ria, 632, carrier]; Iyengar, I. J. Med. R., 1920 Sci. Cong., No. 9<sup>10</sup>; Stanton, loc. cit., III, 253<sup>12</sup>; Strickland, loc. cit., IV, 260<sup>13</sup> [found in cleared hill areas]; de Sá, Bol. Geral. Med. Farm, V, (8), 290-29414;

<sup>7</sup> Central India.
 <sup>1</sup>, <sup>18</sup>, <sup>19</sup> Central Prov.
 <sup>6</sup> N.-W. F. P.
 <sup>1</sup>, <sup>3</sup>, <sup>20</sup> Punjab.

<sup>1</sup>, <sup>8</sup> Bihar.

<sup>1</sup>, <sup>10</sup>, <sup>11</sup> Bengal.

<sup>1</sup> Assam.

<sup>1</sup> Bombay.

<sup>1</sup>, <sup>2</sup> Madras.

1, 14 Goa.

<sup>1</sup> Quilon.

4, 15 Ceylon.

<sup>5</sup> Jeypore Hills.

<sup>13</sup> F. M. S.

<sup>12</sup>, <sup>16</sup>, <sup>17</sup> Sumatra.

<sup>9</sup> Philippines.

Hacker, F. M. S. Mal. Bur. Rpt., I, 74, [index to references]; *id.*, *loc. cit.*, II, 10, 18, [faunal associations]; Kenk., Gen. Tijd. Ned. Ind., LXI, 202<sup>16</sup>, [abst. R. A. E. (B) IX, 135].

Nyssorhynchus fuliginosus, Theo., Monog. Culic. III, 93; id., loc. cit., IV, 100, [life history]; Blanchard, Moustiques, 206, fig. 179; Brun., R. I. M., I, 317<sup>1</sup>; id., loc. cit., IV, 428; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 87-89, Pl. VII; Gunasekera, Ceylon S. P. 37 of 1913, 7<sup>15</sup>.

Anophetes futiginosus var. adiei, James & List., Monog. Anoph. Mosq. Ind., (2nd. edn.) 89,<sup>20</sup> (1911); Chris. I. J. Med. R., III, 465; Brun., R. I. M., XVII, 99.

Nyssorhynchus jamesi, List., (nec. Theo.), Ind. Med. Gaz., XXXVI, 441, (1901). Nyssorhynchus leucopus, 17 Don., Insek-

tenborse, XVIII, 37, (1901).

Anopheles nagpori, James & List., Monog. Anoph. Mosq. Ind., 101 18, (1904).

Anopheles fuliginosus var. nagpori, id., loc. cit., (2nd. edn.), 90<sup>19</sup> (1911).

#### fuliginosus var. nivipes, Theobald.

Nyssorhynchus nivipes, Theo., Entom. XXXVI, 258, (1903); id., Monog. Culic., IV, 101; Brun., R. I. M., I, 319<sup>2</sup>; id., loc. cit., IV, 429.

Nyssorhyncus nivipes, Leic., Culic., Malaya, 44.

Anopheles nivipes, Patton & Cragg, T. B. Med. Ent., 239.

Anopheles fuliginosus, James & Stant., Paludism, V, 62.

Anopheles fuliginosus var. nivipes, Chris. I. J. Med. R., III, 466<sup>1</sup>; Brun., R. I. M., XVII, 99; Swell., B. Ent. R., XI, <sup>1</sup> Burma.

<sup>2</sup> F. M. S.

88; Stanton, loc. cit., X, 333, [distribution in Far Eastern Ports].

## funestus var. listoni, Liston.

Anopheles listoni, List., (nec. Giles), Ind. Med. Gaz., XXXVI, 441, (1901); Adie & Alcock, Proc. R. S., LXXVI, 319-321, [enemies in Calcutta]; Hodgson, I. J. Med. R., II, 411<sup>2</sup>; Perry, loc. cit., II, 469<sup>3</sup>; Gill, loc. cit., VII, 611<sup>5</sup>; Patton & Cragg, T. B. Med. Ent., 230; Bentley, Malaria in Bombay, 62<sup>6</sup>; Takaki in Ross, Prevention of Malaria, 564<sup>7</sup>; Ross., loc. cit., 631, [carrier]; de Sá, Bol. Geral. Med. Farm, V (8), 290-294<sup>8</sup>.

Myzomyia listoni, Theo., Monog. Culic, III, 27, ff. 12, 13, 17; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 73, Pl. XI, 1; Brun., R. I. M., I, 305-308; id., loc. cit., IV, 420; James, Sci. Mem. Med. Off. Ind., II, 31, f. 9; Gunasekera, Ceylon S. P. 37 of 1913,

710.

Anopheles funestus var. listoni, Chris., I. J. Med. R., III, 181, 466<sup>1</sup>; Sinton, loc. cit., V, 192, [parasite]; 197, 201, 207<sup>4</sup>, [varieties]; Brun., R. I. M., XVII, 107<sup>12</sup>; White, I. J. Med. R., VIII, 315<sup>9</sup>.

Anopheles fluviatilis, James, Sci. Mem. Med. Off. Ind., 1I, 31, f. 9, (1902); James & List., Monog. Anoph. Mosq. Ind. 103, Pl. VII, I, Pl. X; id., loc. cit., (2nd. edn.), Pl. IV; Theo. Proc. R. S., LXIX, 378, Pl. V, 3.

Myzomyia leptomeres, Theo., Monog. Culic., III, 38, (1903)<sup>8</sup>; id., loc. cit., IV, 124; id., loc. cit., V, 29; Brun., R. I. M., I, 307; id., loc. cit., IV, 419; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 76.

8 India.

<sup>5</sup> Kashmir.

1, 4 N.-W. F. P.

<sup>1</sup>, <sup>2</sup> Punjab.

<sup>1</sup> United Prov.

<sup>1</sup> Bihar.

<sup>1</sup> Bengal.

<sup>1</sup> Assam.

<sup>1</sup> Burma.

<sup>1</sup> Central India.

<sup>6</sup> Bombay.

<sup>3</sup> Jeypore Hills.

8 Goa.

<sup>1</sup>, <sup>9</sup>, <sup>10</sup> Ceylon.

<sup>7</sup> Formosa.

<sup>11</sup> Gambia.

<sup>11</sup> Sudan.

12 Perak.

Anopheles leptemeres, Patton & Cragg, T. B. Med. Ent., 230.

An opheles funestus var. leptomeres, Chris., I. J. Med. R., III, 467; Edw., B. Ent. R., III, 249; Brun., R. I. M., XVII, 107.

Myzcmyia funesta var. subumbrosa, Theo., Monog. Culic., III, 34, (1903); id., loc. cit., V, 17<sup>11</sup>.

#### gigas, Giles.

Anopheles gigas, Giles, E. M. M., XXXVII, 196, (1901); Theo., Monog. Culic., II, 308; James & List. Anoph. Mosq. Ind., 118; Giles, Handbook, (2nd. edn.), 316, Pl. X, 2; Brun., R. I. M., I, 303<sup>1</sup>; id., loc. cit., IV, 416; Chris., I. J. Med. R., III, 467<sup>3</sup>; Theo. Monog. Culic., V, 8<sup>2</sup>; Patton & Cragg, T. B. Med. Ent., 229; Brun., R. I. M., XVII, 100.

Myzomyia gigas, Blanch., Moustiques, 184.

Patagiamyia gigas, James, R. I. M., IV, 98.

Patagiamyia simlensis, James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 66<sup>5</sup>, (1911).

Anopheles simlensis, Brun., R. I. M., IV, 416; Patton & Cragg, T. B. Med. Ent., 229; Acton, etc., I. J. Med. R., VIII, 952<sup>4</sup>, (simalensis, laps).

Anopheles gigas var. simlensis, Alcock, Jo. Lon. Sch. Trop. Med., II (3), 161, (1913).

Anopheles gigas var. rufitarsis, id., loc. cit., II, (3) 161, (1913).

#### immaculatus, James.

Anopheles immaculatus, James, Sci. Mem. Med. Off. Ind., II, 35 (1902)<sup>1</sup>; Theo., Monog. Culic., III, 23; James & List. <sup>3</sup> Deesa.

3, 4, 5 Himalayas.

<sup>3</sup> Khasia.

<sup>3</sup> Pachmari.

<sup>1</sup>, <sup>2</sup>, <sup>8</sup> Nilgiris.

<sup>2</sup> Ceylon.

<sup>1</sup> Ennur.

<sup>2</sup> D. E. Ind.

Monog. Anoph. Mosq. Ind., 120; id., loc. cit., (2nd. edn.), 77; Brun., R. I. M., I, 304; id., loc. cit., IV, 416; Chris., I. J. Med. R., III, 468; Brun., R. I. M., XVII, 110; Theo. Monog. Culic., V, 14; Patton & Cragg. T. B. Med. Ent., 231; Edw., B. Ent. R., XII, 70 [? = vagus, Dön.].

Myzomyia immaculata, Swell. and Graaf, B. Ent. R. XI. 77 [redescr.] Myzomyia flava, Swell., (1917)<sup>2</sup>

## jamesi, Theobald.

Anopheles jamesi, Theo., Monog. Culic., I, 134, Pl. I, 2, (1901); Giles, Handbook, (2nd. edn.) 299; James, Sci. Mem. Off. Ind., II, 41; James & List., Monog. Anoph. Mosq. Ind., 93, Pl. VI; Chris., I. J. Med. R., III, 468; Chatterjee, R. I. M., I, 82<sup>2</sup>; Hodgson, I. J. Med. R., I, 702<sup>3</sup>; Corn. & Patton. loc. cit., II, 569, [salivary secretion]; Hodgson, loc. cit., II, 4114; James, loc. cit., II, 263<sup>5</sup>; Perry, loc. cit., II, 469<sup>6</sup>; Patton & Cragg, T. B. Med. Ent., 233; Iyengar, I. J. Med. R., 1920 Sci. Cong. No. 97; de Sá, Bol. Geral. Med. Farm, V, (8) 290-48; White, I. J. Med. R., VIII, 315.9

Nyssorhynchus jamesi, Blanch, Moustiques, 206; Brun., R. I. M., I, 318<sup>1</sup>; id., loc. cit., IV, 429; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 91, Pl. VIII; Gunasekera, Ceylon S. P. 37 of 1913, 7<sup>10</sup>.

1, 4 Punjab.

<sup>1</sup> United Prov.

<sup>1</sup> Quetta.

<sup>1</sup> Berars.

<sup>1</sup> Deccan.

<sup>1</sup> Central Ind.

1, 2, 7 Bengal.

<sup>1</sup>, <sup>3</sup> Madras.

1, 8 Malabar Coast.

<sup>5</sup>, <sup>9</sup>, <sup>10</sup> Ceylon.

<sup>6</sup> Jeypore Hills.

<sup>1</sup> Bombay.

## jeyporiensis, James.

Anopheles jeyporiensis, James, Sci., Mem. Med. Off. Ind., II, 32, ff. 11, 12<sup>1</sup>; James & List., Monog. Anoph. Mosq. Ind., 101, Pl. VII, 2, Pl. IX; Chris., I. J. Med. R., III, 468; Brun., R. I.

1, 2, 4 Jeypore Hills.

<sup>2</sup> Central Prov.

<sup>2</sup> Bombay.

<sup>6</sup> Kanara.

<sup>5</sup> Ceylon.

M., XVII, 109<sup>6</sup>; Chalm., Spol. Zeyl. II, 169<sup>5</sup>, [Ceylon distrib.]; Perry, I. J. Med. R., II, 469<sup>4</sup>; Mc. Farl., B. Ent. R., VI, 67<sup>3</sup>; Patton & Cragg, T. B. Med. Ent., 231.

Pyretophorus jeyporiensis, Theo., Monog. Culic., III, 66, Pl. VIII; James & List. Monog. Anoph. Mosq. Ind., (2nd. edn.), 81, Pl. VI, fig. p. 67.

Pyretophorus jeyporensis, Brun., R. I. M., I, 313<sup>2</sup>.

## karwari, James.

Nyssorhynchus karwari, James in Theo., Monog. Culic., III, 102, f. 61, (1903)<sup>1</sup>; Brun., R. I. M., I, 318<sup>7</sup>; id., loc. cit., IV, 429; James & List., Monog. Anoph. Mosq. Ind., (2nd. edn.), 96, Pl. XII; Leic., Culic. Malaya, 39, (Nyssorhyncus).

Anopheles karwari, James & List., Monog. Anoph. Mosq. Ind., 89, figs. Pl. XIV; Chris., I. J. Med. R., III, 4696, Brun., R. I. M., XVII, 112; Perry, I. J. Med. R., II, 4692; Mc. Farl., B. Ent. R., VI, 673; Stanton, loc. cit., VI, 167, [larva descr.]; Patton & Cragg, T. B. Med. Ent., 233; Strick., I. J. Med. R., IV, 2604, [in cleared hill areas]; White, loc. cit., VIII, 3165; Lamb., B. Ent. R., XII, 96, fig. 3 f. [pupa]; Hacker, F. M. S. Mal. Bur. Rpt., I, 748, [index to refs.]; id., loc. cit., II, 169, [faunal associations].

Anopheles nigrans, Stanton, Jo. Lon. Sch. Trop. Med., II, (1) 7, (1912)<sup>10</sup>.

## kochi, Dönitz.

Anopheles kochi, Dön., Insektenbörse, XVII, 36, (1901); Theo., Monog. Culic., I, 74, Pl. IV, 16; Edw., B. Ent. <sup>3</sup> Hongkong.

1, 7 Karwar.

6, 7 Malabar Coast.

<sup>6</sup> Central India.

<sup>2</sup> Jeypore Hills.

<sup>6</sup> Assam.

<sup>5</sup> Ceylon.

4, 8, 9, 10 F. M. S.

B Hongkong.

<sup>2</sup>, <sup>3</sup>, <sup>11</sup> Assam. <sup>2</sup> Burma. R., IV, 222; Gough, loc. cit., V, 142; Roper, loc. cit., V, 129, [life history]; Chris., I. J. Med. R., III, 469<sup>2</sup>; Brun., R. I. M., XVII, 1023; Stant., B. Ent. R., V, 129, fig. 1, 2, [early stages]; id., loc. cit., VI, 168, [larva]; id., loc. cit., X, 333, [distrib. in far East ports]; Swell, loc. cit., XI, 85-86, [larval notes]; Takaki in Ross, Prevention of Malaria, 5644; Stant., I. J. Med. R., III, 253<sup>5</sup>; Strick., loc. cit., IV, 260<sup>6</sup>, [in cleared hill areas]; Kenk., Gen. Tijd. Ned. Ind., LXI, 2027, [Abst. R. A. E. (B), IX, 135], [carrying]; Hacker, F. M. S. Mal. Bur. Rpt., I, 758, [index to refs.]; id., loc. cit., II, 109, [faunal associations]; 14, 33, [larval distinctions].

Nyssorhynchus kochi, Blanch., Mousti-

ques, 208.

Cellia kochi, Theo., Monog. Culic., III, 110; Leic., Culic. Malaya, 46; Brun., R. I. M., I, 321; id., loc. cit., IV, 431. Cellia flava, Ludl., Can. Ent., XL, 32, (1908)<sup>12</sup>; Brun., R. I. M., IV, 431<sup>13</sup>. Nyssorhynchus flavus, Ludl., Psyche,

XVIII, 126.

Christophersia halli, James, Paludism, I, 33, figs., (1910)<sup>11</sup>; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.) 123; Brun., R. I. M., IV, 431.

Anopheles halli, Patton & Cragg, T. B. Med. Ent., 236.

Anopheles ocellatus, Theo., M S., Monog. Culic., II, 306, [note]; Giles, Handbook, (2nd. edn.), 315, Pl. IX, 5, (1902).

leucosphyrus, Dönitz.

Anopheles leucosphyrus, Dön., Insekten- <sup>1</sup> Assam. börse, XVIII, 37, (1901); Theo., <sup>1</sup>, <sup>6</sup> Malabar Coast. Monog. Culic., II, 307, app.; Roper, <sup>2</sup>, <sup>4</sup> Karwar.

3, 6, 8, 9 F. M. S.
3 Java.
3, 5, 7 Sumatra.
3, 12, 13 Philippines.
4 Formosa.

B. Ent. R., V, 143; Swell, loc. cit., XI, 83, [larva desc.]; Stant., loc. cit., VI, 168, [larva]; Brun., R. I. M., XVII,  $102-103^4$ ; Kenk. Gen. Tijd. Ned. Ind., [abst. R. A. E. (B) IX, 135]8, [notes]; Hacker, F. M. S. Mal. Bur. Rpt., I, 759, [index to refs.]; id., loc. cit., II, 2210, [faunal associations], 33, [abnormal imago]; Stant, I. J. Med. R., III, 254.<sup>5</sup>

Anopheles leucophyrus, Chris., I. J. Med. R., III, 469.1

Myzomyia leucophyrus, Giles, Handbook, (2nd. edn.) 312, fig. 44; James & List., Monog. Anoph. Mosq. Ind., 82; Leic., Culic. Malaya, 28; Brun., R. I. M., I,  $307^2$ .

Nyssorhynchus leucophyrus, Blanch., Moustiques, 213.

Neomyzomyia leucophyrus, Brun., R. I. M., IV, 417.

Anopheles leucophyrus var. elegans James & List., Monog. Anoph. Mosq. Ind., 82, Pl. IX, XII, (1903).

Pyretophorus leucosphyrus var. elegans, Theo., Monog. Culic., IV, 77.

Neomyzomyia elegans, James, in Theo., Monog. Culic., V, 30, figs.<sup>3</sup> [Theo. desc.]; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 105, Pl. XV.

Anopheles elegans, Patton & Cragg, T. B. Med. Ent., 228; de Sá, Bol. Geral. Med. Farm, V (8), 290-4.6

Anopheles leucosphyrus var. hackeri, Edw., B. Ent. R., XII, 70, (1921).

#### lindesaii, Giles.

Anopheles lindesaii, Giles, Handbook, 166,  $(1900)^1$ ; *id.*, *loc. cit.*, (2nd. edn.), 323, Pl. X, 8; Chris., I. J. Med. R., II, 470<sup>5</sup>; Gill, I. J. Med. R., VII, 611.<sup>4</sup>, 8 Masuri Dist.

<sup>3</sup>, <sup>4</sup> Duars. <sup>3</sup>, <sup>4</sup> Andamans. Matale, (Ceylon) (White)

<sup>4</sup>, <sup>5</sup>, <sup>8</sup> Sumatra. <sup>4</sup>, <sup>7</sup>, <sup>9</sup>, <sup>10</sup> F. M. S. <sup>4</sup> Borneo.

<sup>8</sup> Ferozepore.

<sup>8</sup> Murree.

Anopheles lindesayi, Theo., Monog. Culic. I, 203, Pl. V, 9; James & List., Monog. Anoph. Mosq. Ind., 117, Pl. XV; Blanch., Moustiques, 169; Brun., R. I. M., I, 304<sup>3</sup>; id., loc. cit., IV, 416; Annan., R. I. M., I, 83<sup>2</sup>; Patton & Cragg, T. B. Med. Ent., 229; Brun., R. I. M., XVII, 100<sup>8</sup>; Acton, etc., I. J. Med. R., VIII, 751.<sup>6</sup>

Patagiamyia lindesayi, James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 62, figs., Pl. II.

Patagiamyia lindesayi var. maculata, Theo., R. I. M., IV, 1; Brun., loc. cit., IV, 40<sup>7</sup>; Theo., Monog. Culic., V, 14. <sup>2</sup>, <sup>3</sup> Naini Tal Dist.

<sup>6</sup> Simla Dist.

<sup>4</sup> Kashmir.

<sup>8</sup> Kurseong.

<sup>8</sup> Assam.

<sup>5</sup> Nilgiris.

<sup>5</sup> Palnis.

<sup>1</sup> Punjab.

## ludlowi. Theobald.

Myzomyia ludlowi, Theo., Monog. Culic., III, 42, (1903)<sup>1</sup>; Banks, Phil. Jo. Sci., II, 519, Pl. I-XI, [life history] <sup>2</sup>; Brun., R. I. M., I, 309; id., loc. cit., IV, 420.

Nyssomyzomyia ludlowi, James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 101, t. fig.; Strick., B. Ent. R., V, 321, Pl. XXXII, XXXIII, 2 t. fig. [morphology].

Anopheles ludlowi, Roper, B. Ent. R., V, 145; Chris., I J. Med. R., III, 470³; Brun., R. I. M., XVII, 110⁴; Swell., B. Ent. R., XI, 87-91, [larva; distinctions from rossii]; Hodgson, I. J. Med. R., I, 702⁵ [carrying]; James, loc. cit., II, 263⁶; Stanton, loc. cit., III, 254⁻; de Sá, Bol. Geral. Med. Farm, V (8) 290-⁴8; Balf., B. Ent. R., XII, 30 [saline water breeder]; Darling, Jo. Exp. Med., XXXII, 313-329⁶, [abst. R. A. E. (B) IX, 130], [carrying]; Hacker, F. M. S. Mal. Bur. Rpt., II, 16¹⁰, [faunal associations], 34, 43, [carrying]; Swell.

<sup>3</sup> Burma.

3, 5, 4 Madras.

8 Goa.

<sup>3</sup>, <sup>4</sup> Andamans.

3, 5 Ceylon.

<sup>7</sup>, <sup>11</sup> Sumatra.

<sup>9</sup>, <sup>11</sup> Java.

<sup>2</sup>, <sup>4</sup>, <sup>10</sup> F. M. S. <sup>1</sup>, <sup>2</sup>, <sup>4</sup> Philippines. & Graaf, Parasitology, XII, 180-19811, [more dangerous than umbrosus].

#### maculatus, Theobald.

Anopheles maculata, Theo., Monog. Culic. I, 71, f. 48, (1901).

Anopheles maculatus, James, Sci. Mem. Med. Off. Ind., II, 47, fig. 25; Giles, Handbook, (2nd. edn.), 301, Pl. IX, 2; James & List., Monog. Anoph., Mosq. Ind., 99; Chris., I. J. Med. R., III, 4711; Stanton, Jo. Lon. Sch. Trop. Med., II (1) V., Roper, B. Ent. R., V, 143<sup>5</sup>; Stanton, loc. cit., VI, 169, [larva]; Patton & Cragg, T. B. Med. Ent., 232; Takaki in Ross, Prevention of Malaria, 564<sup>6</sup>; Stanton, I. J. Med. R., III, 2547; Strickland, loc. cit., IV, 2598, [not in hill jungle]; Brun., R. I. M., XVII, 104; Watson, Trop. Agric., XLII, 151, [notes in abst.]; Chalm., Spol. Zeyl., II, 169<sup>3</sup>, [Ceylon distrib.]; de Sá, Bol. Geral. Med. Farm, V (8), 290-49; White, I. J. Med. R., VIII, 315<sup>10</sup>; Lamb., B. Ent. R., XII, 93, fig. 1, [larva]; Hacker, F. M. S. Mal. Bur. Rpt., I, 75<sup>12</sup>, [index to references]; id., loc. cit., II, 11, 1513, [faunal associations].

Nyssorhynchus maculatus, Theo., Monog. Culic., III, 96; Blanch. Moust., 207, f. 180; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 84-86; Leic., Culic. Malaya, 41; Brun., R. I. M., I, 318<sup>4</sup>; id., loc. cit., IV, 429; James & Stant., Paludism, V, 62; Gunasekera, Ceylon S. P. 37 of 1913, 7<sup>11</sup>.

Nyssorhyncus willmori, Leic. [nec. James], Culic. Malaya, 42.

Nyssorhynchus pseudo-willmori, Theo., Monog. Culic. V, 65, (1910); James & List., Monog. Anoph. Mosq. Ind. <sup>1</sup>, <sup>2</sup> N.-W. Himalaya.

<sup>2</sup>, <sup>4</sup> Lahore.

<sup>2</sup>, <sup>4</sup> Kurseong.

<sup>1</sup>, <sup>2</sup> Assam.

<sup>2</sup>, <sup>4</sup>, <sup>12</sup> Duars.

<sup>2</sup>, <sup>4</sup> Jeypore Hills.

<sup>1</sup> South India.

<sup>9</sup> Goa.

1, 3, 10, 11 Ceylon.

<sup>2</sup>, <sup>7</sup> Sumatra.

<sup>5</sup> Borneo.

2, 8, 12, 13 F. M. S.

<sup>2</sup> Hongkong.

<sup>6</sup> Formosa.

(2nd. edn.), 87, Brun., R. I. M., IV, 430.12

? Anopheles maculatus var. willmori, Alcock, Jo. Lon. Sch. Trop. Med., III, 3, (1913).

## maculipalpis, Giles.

Anopheles maculipalpis, Giles, Handbook, (2nd. edn.), 279, (1902); James & List., Monog. Anoph. Mosq. Ind., 95, Pl. IV, X, 5, Pl. VII; Chris., I. J. Med. R., III, 4721; Brun., R. I. M., XVII, 108<sup>2</sup>; Chalm., Spol. Zeyl., II, 168<sup>4</sup>, [Ceylon distribution]; Hodgson, I. J. Med. R., II, 411<sup>5</sup>; Perry, loc. cit., II, 4696; Sinton, loc. cit., V, 197, 202, 2067, [varieties]; Gill, loc. cit., VII, 6118; Patton & Cragg, T. B. Med. Ent., 233; Ross, Prevention of Malaria, 632, [carrying].

Nyssorhynchus maculipalpis, Theo., Monog. Culic., III, 96, fig. 56, t. fig. p. 98, Pl. II; Brun., R. I. M., I, 319<sup>3</sup>; id., loc. cit., IV, 429; James & List., Monog. Anoph. Mosq. Ind., (2nd. edn.), 93, Pl. IX; James, R. I. M., VI, 319.

Nyssorhynchus maculipalpis var. indiensis, Theo., Monog. Culic., III, 99, (1903); Brun., R. I. M., I, 319.

Nyssorhynchus indiensis, Theo., Monog. Culic., IV, 98; Brun., R. I. M., IV, 428<sup>10</sup>; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 95.

Anopheles indiensis, James & List., Monog. Anoph. Mosq. Ind., 95, Pl. ii. figs.

Anopheles jamesi, Steph. & Chris. [nec. Theo.], Rpt. R. S. Mal. Com., 1902.

## <sup>1</sup>, <sup>2</sup>, <sup>7</sup> N.-W. Frontier.

- <sup>1</sup>, <sup>2</sup> Himalaya Terai.
- 1, 2, 5 Indo-Gangetic Plain.
- 1, 2, 3, 10 Central India.
- <sup>1</sup>, <sup>2</sup> South India.
- 1, 2, 3, 10 Malabar Coast.
- <sup>2</sup> Bombay.
- <sup>8</sup> Kashmir.
- <sup>6</sup> Jeypore Hills.
- <sup>9</sup> Yunnan.
- <sup>2</sup>, <sup>4</sup> Ceylon.

#### minimus. Theobald.

Anopheles minimus, Theo., Monog. Culic. I, 186, fig. 55, (1901); Giles, Hand-

<sup>&</sup>lt;sup>2</sup> Mashonaland.

<sup>&</sup>lt;sup>2</sup> Philippines.

<sup>&</sup>lt;sup>2</sup> Mauritius.

<sup>&</sup>lt;sup>6</sup> Bombay.

book, (2nd. edn.), 321, Pl. X, 7; Chris., I. J. Med. R., III, 473<sup>1</sup>; Brun., R. I. M., XVII, 105; Mc. Farl., B. Ent. R., VI, 67<sup>2</sup>; Stant., loc. cit., X, 333, [distribution in Far East Ports].

Myzomyia minima, Swell., B. Ent. R., XI, 86, fig. 9, [larva].

Pyretophorus minimus, Giles, Jo. Trop. Med., VII, 365; Blanch., Moustiques, 188, f. 169; Brun., R. I. M., I, 313<sup>3</sup>; id., loc. cit., IV, 423.

Anopheles aconitus var. cohaesa, Dön., Zeit. f. Hyg., XLIII, 233 (1903).

Anopheles christophersi, Theo., Proc. R. S., LXIX, (456) 378, (1902).

Myzomyia christophersi, James & List., Monog. Anoph. Mosq. Ind., 103, Pl. VII, 1, Pl. X; Giles, Handbook, (2nd. edn.) 512; Theo., Monog. Culic, V, 24<sup>s</sup>; Edw., B. Ent. R., IV, 222; Ludl., loc. cit., VI, 155, [synonomy].

Anopheles febrifer, Banks, Phil. Jo. Sci., IX, (D) 405, (1914) [prelim. descr.]; Walk. & Barb., loc. cit., IX, (B) 384, (1914).

Anopheles formosaensis, I. Tsutzuki, Arch. f. Schiff., IV, 9, (1902).<sup>5</sup>

Myzomyia funesta, Ludl. [nec. Giles], Can. Ent., XXXVII, 135, (1905).

Myzomyia mangyana, Banks, Phil. Jo. Sci., I, 901, (1906); Brun., R. I. M., I, 309.4

#### minimus var. aconitus, Dönitz.

Anopheles aconitus, Dön.; Beit. Kenntn.
Anoph., 706, (1902); id., Zeit. f. Hyg.,
XLIII, 233; Theo., Monog. Culic.,
III, 30, fig.; Brun., R. I. M., IV, 415,
[carries]; Stant., I. J. Med. R., III,
252; Brun., R. I. M., XVII, 1081;
Stant., I. J. Med. R., VI, 1622, [larva];
Hacker, F. M. S. Mal. Bur. Rpt., I,

<sup>1</sup>, <sup>6</sup> Assam.
 <sup>1</sup>, <sup>6</sup> Bengal.
 <sup>1</sup>, <sup>6</sup> Central India.
 <sup>6</sup> N. Kanara.
 <sup>6</sup> Kangra Valley.

<sup>2</sup>, <sup>3</sup> Hong Kong. <sup>3</sup>, <sup>4</sup> Philippines. <sup>5</sup> Formosa. <sup>6</sup> Perak.

<sup>6</sup> Ceylon.

<sup>7</sup>, <sup>15</sup>, <sup>16</sup> Bengal.
<sup>8</sup> Assam.
<sup>8</sup> Burma.
<sup>8</sup> Kangra Valley.
<sup>13</sup> Jeypore Hills.

9, 12, 14 Ceylon.

73³, [index to references]; id., loc. cit., II, 10, 18⁴, [faunal associations].

Myzomyia aconita, Brun., R. I. M., I, 305.<sup>5</sup>

Anopheles minimus var. aconitus, Dön., Zeit. f. Hyg., XLI, (1902); Chris., I. J. Med. R., III, 475<sup>7</sup>; Brun., R. I. M., XVII, 106<sup>8</sup>; White, I. J. Med. R., VIII, 315.<sup>9</sup>

Myzomyia minima var. aconita, Swell. B. Ent. R., XI, 85, fig. 8, [larva].

Myzomyia albirostris, Theo., Monog. Culic, III, 24, fig. 11, (1903); Leic., Culic. Malaya, 23; Brun., R. I. M., I, 305<sup>10</sup>; id., loc. cit., IV, 418; Strick., I. J. Med. R., I, 203.<sup>11</sup>

Anopheles albirostris, James, I. J. Med. R., II, 263<sup>12</sup>; Perry, loc. cit., II, 469<sup>13</sup>; Stant., B. Ent. R., III, 387, 6 figs., [larval changes]; Patton & Cragg, T. B. Med. Ent., 237.

Myzorhynchus albirostris, Gunasekera, Ceylon S. P. 37 of 1913, 7.14

Anopheles bramacharii, Chris., Paludism, V, 11, (1912); Bramachari, Ind. Med. Gaz., XLVI, 268, (1911).

Myzomyia christophersi var. alboapicalis, Theo., Monog. Culic., V, 25<sup>15</sup>, (1910).

Anopheles listoni var. alboapicalis, Iyengar, I. J. Med. R., 1920 Sci. Cong. No. 916, (1921).

Myzomyia favirostris, Ludl., Bull. 4, Surg. Gen. Off<sup>17</sup>, (1913); id., Psyche, XXI, 30.

#### pallidus, Theobald.

Anopheles fuliginosus var. pallidus, Theo., Monog. Culic, I, 134<sup>1</sup>, fig. 28b, (1901); Chris., I. J. Med. R., III, 466; Brun., R. I. M., XVII, 99.

Nyssorhynchus fuliginosus var. pallidus, Blanch., Moustiques, 205, fig. 179b. <sup>1</sup>, <sup>5</sup>, <sup>6</sup> Java. <sup>1</sup> Sumatra. <sup>2</sup>, <sup>3</sup>, <sup>4</sup>, <sup>8</sup>, <sup>10</sup>, <sup>11</sup> F. M. S. <sup>8</sup> Hongkong. <sup>8</sup>, <sup>17</sup> Philippines.

Bihar.

<sup>2</sup>, <sup>3</sup> Delhi.

<sup>4</sup> Jeypore Hills.

<sup>5</sup> Amritsar.

<sup>5</sup> Central Prov.

<sup>5</sup> S. India

Neocellia fowleri, Chris., Paludism, II, 64, (1911); id., loc. cit., III, Pl. VI. Anopheles fuliginosus var. fowleri, Alcock, Jo. Lon. Sch. Trop. Med., II,

(3), (1913).

Anopheles fowleri, Chris., I. J. Med. R., III, 464<sup>2</sup>; Brun., R. I. M., XVII, 114<sup>5</sup>; Kenrick, Paludism, III, 65; Hodgson, I. J. Med. R., II, 4113; Perry, loc. cit., II, 4694; Patton & Cragg, T. B. Med. Ent., 236.

## pulcherrimus, Theobald.

Anopheles pulcherrimus, Theo., Proc. R. S., LXIX, 396, Pl. V, 2, (1902); James, Sci., Mem. Med. Off. Ind., II, 48, f. 26; James & List., Monog. Anoph. Mosq. Ind., 86, Pl. IV, Giles, Handbook, (2nd. edn.), 510; Chris., I. J. Med. R., III, 476<sup>1</sup>; Brun., R. I. M., XVII, 109<sup>2</sup>; Hodgson, I. J. Med. R., II, 411<sup>3</sup>; Sinton, loc. cit., V, 197, 202, 207 [varieties]; Acton, loc. cit., VI, 268<sup>5</sup>; Chris., loc. cit., VII 713<sup>6</sup>; Chris. & Short, loc. cit., VIII, 516.7

Anopheles pulcherrima, Patton & Cragg, T. B. Med. Ent., 235.

Cellia pulcherrima, Theo., Monog. Culic., III, 107; Blanch. Moustiques, 215; Brun., R. I. M., I, 321; id., loc. cit., IV, 432; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 116, Pl. XIII8.

#### punctulatus var. tessellatus, Theobald.

Anopheles punctulatus, Dön., Insektenborse, XVIII, 36, (1901); James & List., Monog. Anoph. Mosq. Ind., 84, Pl. XI; Roper, B. Ent. R., V 1441; Brun., R. I. M., XVII, 102.2

Anopheles punctulata, Patton & Cragg, T. B. Med. Ent., 227.

<sup>1</sup>, <sup>4</sup> N.-W. F. P.

1, 2, 3 Punjab.

<sup>1</sup>United Prov.

<sup>6</sup> Sind.

Purneah.

2, 8 Goa.

<sup>5</sup>, <sup>6</sup>, <sup>7</sup> Mesopotamia.

Syria.

6 Arabia.

<sup>2</sup> Turkestan.

Myzomyia punctulata, Leic., Culic. Malaya, 27; Brun., R. I. M., I, 309.<sup>3</sup>

Nyssorhynchus punctulatus, Blanch., Moustiques, 208.

Nyssomyzomyia punctulata, James & List., Monog. Anoph. Mosq. Ind., (2nd. edn.) 104, Pl. XIV<sup>4</sup>; James & Stant., Trans. F. East. Ass. Trop. Med., 1912, 315; Gunasekera, Ceylon S. P. 37 of 1913, 7<sup>5</sup>.

Cellia punctulata, Theo., Monog. Culic., IV, 109; Brun., R. I. M., IV, 132.

Anopheles tessellatum, Theo., Monog. Culic., I, 175 f. 49 Pl. XXXVII 148 (1901) [as punctulatus, Dön.]; Giles, Handbook, (2nd. edn.) 305, Pl. IX, 7; Edw. B. Ent. R., IV, 221; Stanton, I. J. Med. R., III, 2556; Chris., loc. cit., III, 4827; Brun., R. I. M., XVII, 105<sup>8</sup>; James, I. J. Med. R., II, 263; Perry, loc. cit., II, 46910; Stanton, B. Ent. R., IV, 129, figs. 1-4, [larva]; Mc. Farl., loc., cit., VI 6711; Stanton, loc. cit., VI, 171, [larva]; id., loc. cit., X, 333, [distribution in Far East. ports]; Lamb., loc. cit., XII, 96, f. 3c, [pupa]; Darling., Jo. Exp. Med., XXXII, 313-329<sup>13</sup>, (abs. R. A. E., (B) IX, 131]; Hacker, F. M. S. Mal. Bur. Rpt., I, 7614, [index to references]; id., loc. cit., II, 10, 1915, [faunal associations], 33, [larval distinctions].

Myzomyia tessellatum, Theo., Monog. Culic., III, 55.

Myzomyia tessellata, Theo.. Monog.
 Culic., IV, 42; Brun., R. I. M., I, 311<sup>16</sup>;
 id., loc. cit., IV, 422.

Anopheles punctulatum, Dyar, Ins. Ins. Mens. VIII, 184<sup>12</sup>.

Anopheles punctulatus var. tessellatus, Swell., B. Ent. R., XI, 85, 86, 89, 90; Edw., loc. cit., XII, 70, 71. <sup>4</sup> Bombay.

<sup>7</sup> Burma.

<sup>7</sup> Assam.

<sup>4</sup>, <sup>7</sup> Central India.

10 Jeypore Hills.

4, 7 South India.

<sup>7</sup> Delhi.

5, 7, 8, 9, 17, 19 Ceylon

3, 6, 8, 18 Sumatra.

13 Java.

14, 15, 16 F. M. S.

<sup>11</sup> Hongkong.

12, 20 Philippines

<sup>1</sup>, <sup>3</sup> Borneo.

<sup>2</sup>, <sup>3</sup> Papua.

Dactylomyia ceylonica, News. & Cart., Ann. Trop. Med. Paras., VI, 377, (1910).<sup>17</sup>

Anopheles deceptor, Dön., Zeit., F. Hyg., u. Insek., XLI, 60, (1902)<sup>18</sup>.

Myzomyia deceptor, Theo., Monog. Culic., V, 29<sup>19</sup>; Brun., R. I. M., IV, 418.

Myzomyia thorntoni, Ludl., Can. Ent., XXXVI, 69, (1904)<sup>20</sup>; Blanch., Moustiques, 183; Brun., R. I. M., I, 311; id., loc. cit., IV, 422.

#### rhodesiensis, Theobald.

Anopheles rhodesiensis, Theo., Monog. Culic., I, 184<sup>1</sup>, (1901); Chris. & Chand., I. J. Med. R., III, 180<sup>2</sup>; Chris., loc. cit., III, 476<sup>3</sup>; Gill, loc. cit., IV, 207<sup>4</sup>; Sinton, loc., cit., V, 197, 203, 208<sup>5</sup>, [varieties]; Chris., loc. cit., VII, 711<sup>6</sup>; Chris. & Short, loc. cit., VIII, 516.

Myzomyia rhodesiensis, Theo., Monog. Culic., III, 35; id., loc. cit., V, 26<sup>10</sup>.

Anopheles d'thali, Patton, Bom. Jo., XVI, 623, (1905)<sup>8</sup>.

Myzomyia d'thali, Theo., Monog., Culic., V, 20, figs. [redescr.]<sup>9</sup>.

<sup>2</sup>, <sup>3</sup> Baluchistan.

3, 5 N.-W. F. P.

<sup>4</sup> Muscat.

8, 5 Aden.

<sup>6</sup>, <sup>7</sup> Mesopotamia.

<sup>1</sup>, <sup>10</sup> Rhodesia.

<sup>10</sup> Mashonaland.

10 Uganda.

<sup>10</sup> Congo Free State.

<sup>10</sup> Transvaal.

#### rossi, Giles.

Anopheles rossi, (Giles), Jo. Trop. Med., II, 63, (Oct. 1899); Theo., Monog. Culic., I, 154, ff. 37-38, Pl. A, Pl. III; 9, 10<sup>1</sup>; Giles, Handbook, 149; id., loc. cit., 2nd. edn., 311, Pl. IX, 11; James & List., Monog. Anoph. Mosq. Ind., 109, Pl. VI, 1, Pl. X, 3, Pl. XII; Chris., I. J. Med. R., III, 476-479; Chalmers, Spol. Zeyl., II, 167<sup>3</sup>, [Ceylon distrib.]; Green, Trop. Agric., XXVII, 84; Chatterjee, R. I. M., I, 82<sup>4</sup>; Hodgson, I. J. Med. R., I, 702<sup>5</sup>; Gill, loc. cit., II, 268, [minimum biting temp.]; Corn. & Patton. loc. cit., II, 569, [salivary]

<sup>2</sup>, <sup>10</sup> N.-W. F. P.

<sup>3</sup>, <sup>7</sup> Punjab.

<sup>2</sup> United Provinces.

<sup>2</sup> Bihar.

1, 2, 4, 12 Bengal.

<sup>2</sup> Assam.

<sup>2</sup> Orissa.

<sup>2</sup>, <sup>11</sup> Central India.

<sup>2</sup> Bombay.

<sup>9</sup> Jeypore Hills.

<sup>2</sup>. <sup>5</sup> Madras.

2, 6, 13 Malabar Coast.

3, 8 Ceylon.

<sup>18</sup> Ind. or.

secretion]; Hodgson, loc. cit., II, 4117; James, loc. cit., II, 2638; Perry, loc. cit., II, 469<sup>9</sup>; Sinton, loc. cit., V, 197, 201<sup>10</sup>; Soparkar, loc. cit., V, 512, [parasite]; Iyengar, loc. cit, VII, Sci. Cong. No. 26<sup>11</sup>; Patton & Cragg, T. B. Med. Ent., Pl. XXVII, 8, [salivary glands]; Pl. XXXIV, 1, 4, 6, p. 196, [larva], 203, [pupa], Pl. XXXVII, 1, [imago], p. 226; Fletcher, Pusa. Sci. Rpt. (1915-16), 83; Ross, Prevention of Malaria, 632, [not a carrier]; Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 912; Strickland, loc. cit., IV, 260, [in cleared hill areas]; de Sá, Bol. Geral. Med. Farm., V, (8) 290-4<sup>13</sup>; Swell, B. Ent., R. XI, 87, 89, 91; Balf., loc. cit., XII, 30, [in saline water]; Brun., R. I. M., XVII, 98; Hacker, F. M. S. Mal. Bur. Rpt., I, 75<sup>14</sup>, [index to references]; Darling, Jo. Exp. Med., XXXII, 313-329; [abst. R. A. E. (B) IX, 130], [cattle feeder, not infected in nature].

Myzomyia rossii, Theo., Monog. Culic., III, 45, fig. 23, figs. p. 46-47, Pl. III, VI; Blanch., Moustiques, 178, ff. 162, 163; Leic. Culic., Malaya, 25; Brun., R. I. M., I, 309<sup>2</sup>; id., loc. cit., IV, 421, (rosisi, laps.); Theo., R. I. M., II, 287.

Nyssomyzomyia rossii, James & List.,
Monog. Anoph. Mosq. Ind., (2nd. edn.),
98-101, Pl. XI; Cruick. & Wright
I. J. Med. R., I, 773, 7846; Gunasekera,
Ceylon S. P 37 of 1913, 7; Strick, B.
Ent. R., V, 321, Pl. XXXII-XXXIII,
2, t. figs., [morphology].

Myzomyia parangensis, Ludl., Psyche, XXII, 137-140<sup>15</sup>, (1915).

 Aldrichia error, Theo., Monog. Culic., III, 353<sup>16</sup>, (1903); Brun., R. I. M. I, 322. <sup>16</sup>, <sup>17</sup> Calcutta.

<sup>15</sup> Philippines.
<sup>14</sup> F. M. S.

? Aldrichinella error, Brun., R. I. M., IV, 433; Theo., Monog. Culic, V, 77.

? Anopheles error, Brun., R. I. M., XVII, 112<sup>17</sup>, [A. rossii with abdomen of some other sp.].

? Anopheles subpictus, Grassi, Atti. R. Acad. Lincei Rend., VIII, 1, (Feby. 1899); Brun., R. I. M., I, 323; id., loc. cit., IV, 434; Kert. Cat. Dipt., I, 254<sup>18</sup>; Edw., B. Ent. R., X, 129, [makes rossii a synonym]; White, I. J. Med. R., VIII, 315.

Anopheles subpictus, Lamb. [nec. Grassi], B. Ent. R., XII, 96, fig. 3a, [pupa].

## rossi var. vagus, Dönitz.

Anopheles vagus, Dön., Beit. z. Kennt. Anoph., 80, (1902); id., Zeit., f. Hyg., XLI, 80; Hacker, F. M. S. Mal. Bur. Rpt., II, 11, 14, [faunal associations].

Anopheles rossii var. vagus, Chris., I. J. Med. R., III, 477, 479<sup>2</sup>; White, loc. cit., VIII, 315<sup>3</sup>.

Anopheles subpictus var. vagus, Lamb., B. Ent. R., XII, 96, fig. 3b, [pupa].

Myzomyia rossii var. indefinitā, Ludl., Can. Ent., XXXVI, 299, (1904)<sup>4</sup>; id., B. Ent. R., VI, 155, [synonomy]; Brun., R. I. M., I, 310.

Myzomyia indefinita, Theo., Monog. Culic., IV, 47, (1907); Brun., R. I. M., IV, 407; Theo., Monog. Culic., V, 24.

Anopheles indefinitus, Kenk., Gen. Tijd. Ned. Ind., LXI, 2027, [abst. R. A. E. (B) IX, 135], [infected experimentally]; Dyar, Ins. Ins. Mens., VIII, 184; Darling, Jo. Exp. Med., XXXII, 313, 329, [abst. R. A. E. (B) IX, 131], [cattle feeder]<sup>5</sup>.

Anopheles rossii var. indefinita, Stanton, I. J. Med. R III, 2546.

<sup>2</sup> Burma.

<sup>2</sup> Assam.

<sup>2</sup> Bengal.

<sup>3</sup> Ceylon.

<sup>6</sup> Sumatra.

5, 7 Java.

<sup>8</sup>, <sup>9</sup> F. M. S. <sup>4</sup> Philippines.

Anopheles rossii var. indefinitus, Stanton, B. Ent. R., VI, 159-172, figs. 13, 14, [larva]; Strick., loc. cit., VI, 157, (note); Ludl., loc. cit., VI, 156; Stanton, loc. cit., X, 333, [distribution in Far East. ports]; Hacker F. M. S. Mal. Bur. Rpt., I, 758, [index to references].

Anopheles rossii, Strickland, (nec. Giles), B. Ent. R., V, 321<sup>9</sup>, [comparison with ludlowi].

#### sinensis, Wiedemann.

Anopheles sinensis, Wied., Auss. Zweifl. Ins. I, 547<sup>1</sup>, (1828); Frnfld., Verh. Z.-B. Ges. Wien., XVII, 449; Theo., Monog. Culic., I, 137, fig. 30, Pl. XXXVII, 146, Pl. A; Giles, Handbook, 160; id., loc. cit., (2nd. edn.), 305, Pl. VIII, 9; Stanton, I. J. Med. R., III, 255<sup>2</sup>; Chris., loc. cit., III, 480<sup>3</sup>; Waterst., B. Ent. R., IX, 5, Fig. 8; Brun., R. I. M., XVII, 95, 96; Hodgson, I. J. Med. R., II, 411 5; James, loc. cit., II, 2636; Perry, loc. cit., II, 469<sup>7</sup>; Chris., loc. cit., VII, 711<sup>8</sup>; Stanton, B. Ent. R., VI, 170, fig. 2, 3c, [larva]; id., loc. cit., X, 333, [distribution in Far East. ports]; Patton & Cragg, T. B. Med. Ent., 236; Ross, Prevention of Malaria, 632, [carrier]; Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 9; Strick., loc. cit., IV, 260, [in cleared hill areas]; Swell., B. Ent. R., XI, 86, 91, fig., [larval notes and distribution in D. E. Ind.]; de Sá, Bol. Geral. Med. Farm., V (8) 290-4<sup>12</sup>; Leger, C. R. Soc. Biol., LXXXIII, 160913; White, I. J. Med. R., VIII, 31514; Hacker, F. M. S. Mal. Bur. Rpt., I, 7515, [index to references]; Kenk., Gen. Tijd. Ned., Ind. LXI, 20216,

<sup>3</sup> S. India.

<sup>3</sup> Burma.

4, 9 Bengal.

12 Goa.

<sup>3</sup>, <sup>7</sup> Jeypore Hills.

6, 14 Ceylon.

17 Yunnan.

4, 5 Punjab.

<sup>2</sup>, <sup>16</sup>, <sup>19</sup> Sumatra.

<sup>11</sup>, <sup>15</sup>, <sup>20</sup>, <sup>21</sup> F. M. S. <sup>1</sup>, <sup>4</sup>, <sup>23</sup> China.

<sup>7</sup> Mesopotamia.

<sup>10</sup> Palestine.

8 Macedonia.

13 Rhone Delta.

[abst. R. A. E., (B) IX, 135], [notes]. Myzorhynchus sinensis, Theo., Monog. Culic., III, 89, f. 53; Giles, Jo. Trop. Med., VII, 365; Blanch., Moustiques, 190, fig. 170; Leic., Culic, Malaya, 30, [Myzorhyncus]; Brun., R. I. M., I, 315<sup>4</sup>; id., loc. cit., IV, 426; James, loc. cit., VI, 31<sup>17</sup>; Gunasekera, Ceylon, S. P. 37 of 1913, 7; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 120. Pl. XV,; Strick., B. Ent. R., IV, 139.

Anopheles sinensis var. indiensis, Theo., Monog. Culic., I, 145, (1901).

Anopheles argyropus, Swell., Gen. Tijd. Ned. Ind., LIV, 334, (1914)<sup>19</sup>.

Anopheles jesoensis, Tsuzuki, Cent. f. Bakt., XXXI, 763, (1902); Dön., Zeit. f. Hyg., XLIII, 231.

Anopheles plumiger, Dön., Insektenborse, XVIII, 37, (1901)<sup>23</sup>.

Anopheles pseudopictus, Grassi, Atti. R. Acad. Lincei. Rend., VIII, 109<sup>22</sup>, (1899).

Myzorhynchus pseudopictus, Theo., Monog. Culic., V, 52<sup>24</sup>.

Myzorhynchus separatus, Leic., Culic. Malaya, 36, (1908); Brun., R. I. M., IV,  $426^{20}$ .

Anopheles separatus, Roper, B. Ent. R.,
 V, 145<sup>18</sup>; Strick., loc. cit., IV, 136;
 Brun., R. I. M., XVII, 113<sup>11</sup>.

? Culex. hyrcanus, Pallas, Reise Russ. Reichs., (1771).\*

? Anopheles hyrcanus, Edw., B. Ent. R., X, 129<sup>21</sup>; White, I. J. Med. R., VIII, 316.

Anopheles hyrcanus, Barraud (nec. Pallas)<sup>10</sup>, B. Ent. R., XI, 391; Lamb., [nec. Pallas], loc. cit., XII, 96, fig. 3d;

<sup>&</sup>lt;sup>18</sup> Borneo.

<sup>&</sup>lt;sup>21</sup> Caspian Sca.

<sup>&</sup>lt;sup>22</sup>, <sup>24</sup> Italy.

<sup>24</sup> Hungary.

<sup>\*</sup> For another possible identification of this description see Culex mimeticus, Noë.

Hacker, [nec. Pallas], F. M. S. Mal. Bur. Rpt., II, 10, 17<sup>21</sup>, [faunal associations].

#### sinensis var. vanus, Walker.

Anopheles vanus, Wlk., P. Linn. S. Lon., IV, 91, (1860)<sup>1</sup>; Giles, Handbook, 158; Brun., R. I. M., XVII, 96<sup>2</sup>.

Myzorhynchus vanus, Blanch, Moustiques, 196<sup>4</sup>; Brun., R. I. M., I, 316<sup>7</sup>; id., loc. cit., IV, 427<sup>8</sup>; Theo., Monog. Culic, V, 52<sup>9</sup>.

Anopheles sinensis var. vanus, Chris., I. J. Med. R., III, 480<sup>3</sup>; Chris. & Short, loc. cit., VIII, 516.

Anopheles sinensis var. annularis, Theo., (nec. Wulp.), Monog. Culic., I, 142, fig. 32, Pl. V, 18, Pl. A.

Myzorhynchus sinensis annularis, Theo., Monog. Culic., III, 90.

Myzorhynchus minutus, Theo., Monog.
 Culic, III, 91, (1903); Brun., R. I. M.,
 I, 314; id., loc. cit., IV, 425; Theo.,
 Monog. Culic., V, 5210.

Anopheles minutus, Strick., B. Ent. R., IV, 136; Patton & Cragg, T. B. Med. Ent., 237.

Anopheles nigerrimus, Giles, Handbook, 161, (1900); Theo., Monog. Culic., I, 145; Chatterjee, R. I. M., I, 82<sup>5</sup>; Hodgson, I. J. Med. R., I, 702<sup>6</sup>.

Myzorhynchus nigerrimus, James & List., Monog. Anoph. Mosq. Ind., 79, III, (1903); Blanch. Moustiques, 197; Brun., R. I. M., I, 314; id., loc. cit., IV, 125; James & List., Monog. Anoph. Mosq. Ind. (2nd. edn.), 122, 123, [notes].

Myzorhynchus peditaeniatus, Leic., Culic. Malaya, 31, (1908)<sup>11</sup> (Myzorhyncus); Brun., R. I. M., IV, 425; Strick., B. Ent. R., IV, 135. 3, 4, 7, 10 Indo-Gangetic Plain.

<sup>4</sup> Naini Tal.

3, 4, 5, 9 Bengal.

<sup>3</sup>, <sup>4</sup> Assam.

<sup>3</sup> Burma.

<sup>3</sup>, <sup>7</sup> Central India.

<sup>2</sup>, <sup>3</sup>, <sup>6</sup>, <sup>7</sup> Madras.

<sup>2</sup>, <sup>4</sup>, <sup>7</sup> Malabar Coast.

<sup>2</sup>, <sup>9</sup> Ceylon.

<sup>2</sup>, <sup>7</sup>, <sup>9</sup>, <sup>10</sup>, <sup>11</sup> F. M. S.

<sup>2</sup> Java.

1, 2 Celebes.

<sup>2</sup>, <sup>7</sup>, <sup>9</sup> Philippines.

<sup>2</sup>, <sup>9</sup> China.

<sup>8</sup> Mesopotamia.

<sup>9</sup> Formosa.

# stephensi, Liston.

Anopheles stephensi, List., Ind. Med. Gaz., XXXVI, 441, (1901); James, Sc. Mem. Med. Off. Ind., II, 45, fig. 23, 24; Giles, Handbook, (2nd. edn.), 331, (footnote); James & List., Monog. Anoph. Mosq. Ind., 113, Pl. VI, 2, Pl. X, 6; Pl. XII; Chris., I. J. Med. R., III, 481<sup>1</sup>; Wilson, loc. cit., I, 691<sup>2</sup>, [breeding places]; Hodgson, loc. cit., II, 411<sup>3</sup>; Perry, loc. cit., II, 469<sup>4</sup>; Gill, loc. cit., IV, 2075; Sinton, loc. cit., V, 192, [parasite], 197, 200, 2076, [varieties]; Iyengar, loc. cit., VII, Sci. Cong. No., 267; Gill, loc. cit., VII, 6118; Chris., loc. cit., VII, 7119; Brun., R. I. M., XVII, 106<sup>12</sup>; Patton & Cragg, T. B. Med. Ent., 234, Pl. XXXIV, 2, [egg], Pl. XXXVIII, 1, [imago]; Iyengar, I. J. Med. R., 1920. Sci. Cong. No., 11 et. seq.; de Sá, Bol. Geral. Med. Farm., V, (8), 290-4<sup>16</sup>; Balf., B. Ent. R., XII, 30<sup>17</sup> [in saline water]; Chris. & Short, I. J. Med. R., VIII, 516<sup>18</sup>.

Neocellia stephensi, James & List.,
Monog. Anoph. Mosq. Ind., (2nd. edn.), 113, Pl. XII; Bentley, Malaria in Bombay, 24, 29, 63<sup>10</sup>.

Nyssochynchus stephensi, Theo., Monog. Culic., III, 93, fig. 54, 55, t. figs. pp. 40 and 47; Blanch. Moustiques, 210; Brun, R. I. M., I, 319; id., loc. cit., IV, 430; Ross, Prevention of Malaria, 633, [carrier].

Neocellia intermedia, Rothwell, Entom., XL, 34, (1907)<sup>13</sup>; Theo., Monog. Culic., IV, 115; id., loc. cit., V, 73, fig. 29<sup>14</sup>; Brun., R. I. M. IV, 432.

Anopheles metaboles, Theo., Proc. R. S., LXIX, 374, Pl. V, 1, (1902); Giles, Handbook, (2nd. edn.), 512. 11 Sind.
 3, 11 Punjab.
 8 Kashmir.
 1, 11 Indo-Gangetic Plain.
 1, 11, 15 Bengal.
 1, 7, 11, 13, 14 Central India.
 10, 17 Bombay.
 4 Jeypore Hills.

<sup>1</sup>, <sup>6</sup> N.-W. F. P.

1, 16 Malabar Coast.
11 Lushai Hills.

1, 2, 11 Madras.

<sup>11</sup> Burma.

Philippines.
Nesopotama.
Muscat.

#### superpictus, Grassi.

Anopheles superpictus, Grassi, Real. Acad. Lincei, 78, (1900); Chris., I. J. Med. R., VII, 712<sup>6</sup>; Chris. & Short, loc. cit., VIII, 516<sup>8</sup>; Barraud, B. Ent. R., XI, 392<sup>7</sup>.

Pyretophorus superpictu3, Ross, Prevention of Malaria, 635, [doubtful carrier]; Theo., Monog. Culic., V, 391.

Anopheles superpictus var. macedoniensis, Cot. & Hor. Bull. S. Path. Ex., X, 890, (1917)<sup>2</sup>.

Pyretophorus cardamitis, Newst. & Cart., Ann. Trop. Med. Paras., IV, 379, (1910).

Pyretophorus nursei, Theo., Monog. Culic, IV, 66, (1907)<sup>3</sup>; Brun., R. I. M., IV, 424; James & List., Monog. Anoph. Mosq. Ind., (2nd. edn.), 84.

Anopheles nursei, Chris., I. J. Med. R., III, 475<sup>4</sup>; Sinton, loc. cit., VII, 712<sup>5</sup>; Patton & Cragg, T. B. Med. Ent., 232.

Pyretophorus palestinensis, Theo., Monog. Culic., III, 71, figs. 46, 47, Pl. VI, (1903)<sup>9</sup>.

Anopheles palesinensis, Edw., Jo. R. A. S. Beng., IX, 48; Waterst., B. Ent. R., IX, 4; Brun., R. I. M., XVII, 111<sup>10</sup>.

# <sup>5</sup> N.-W. F. P.

3, 4, 6, 10 Baluchistan.

6, 10 Persia.

<sup>8</sup> Mesopotamia.

<sup>9</sup> Palestine.

<sup>6</sup> Turkestan.

7, 10 Asia Minor.

<sup>6</sup> N. Africa.

1, 2, 6, 10 S. Europe.

# theobaldi, Giles.

Anopheles theobaldi, Giles, E. M. M., XXXVII, 198, (1901); id., Handbook, (2nd. edn.), 299; Theo. Monog. Culic., II, 311, (app.); James & List., Monog. Anoph. Mosq. Ind., 97, Pl. VIII; Perry, I. J. Med. R., II, 469<sup>1</sup>; Chris., loc. cit., III, 482<sup>2</sup>; Patton & Cragg, T. B. Med. Ent., 233; Brun., R. I. M., XVII, 101<sup>4</sup>.

<sup>3</sup>, <sup>5</sup> Bombay.

3, 4, 5 Punjab.

3, 4, 5 United Provinces.

2, 4, 5 Central India.

3, 4, 5 Orissa.

3, 4, 5 E. Bengal.

1, 3 Jeypore Hills.

<sup>2</sup> Malabar Coast.

Nyssorhynchus theobaldi, Theo., Monog. Culic., III, 95; Blanch., Moustiques, 210; Brun., R. I. M., I, 320<sup>3</sup>; id., loc. cit., IV, 430; James & List., Monog. Anoph. Mosq. Ind., (2nd. edn.), 95, Pl. X; Ross, Prevention of Malaria, 634, [carrier]; Theo., Monog. Culic., V, 58<sup>5</sup>, [carrier].

Anopheles maculatus var. theobaldi, Alcock, Jo. Lon. Sch. Trop. Med., II, (3), 164, (1913). <sup>4</sup>, <sup>5</sup> Aden Hinterland. <sup>4</sup>, <sup>5</sup> Philippines.

## turkhudi, Liston.

Anopheles turkhudi, List., Ind. Med. Gaz., XXXVI, 441, (1901); Giles, Handbook, (2nd. edn.), 320, (foot note); James, Sci. Mem. Med. Off. Ind., II, 49, figs. 27, 28; James & List., Monog. Anoph. Mosq. Ind., 115, Pl. VIII, 2, Pl. XIV; id., loc. cit., (2nd. edn.), 781, Pl. V; Gough, B. Ent. R., V, 133, [synonomy]; Chris. & Chand, I. J. Med. R., III, 190; Chris., loc. cit., III, 4832; Edw., B. Ent. R., III, 249; Hodgson, I. J. Med. R., II, 4113; Sinton, loc. cit., V, 197, 202, 2074, [varieties]; Patton & Cragg, T. B. Med. Ent., 231; Ross, Prevention of Malaria, 632, [carrier]; Barraud, B. Ent. R., XI, 392, [distinct from A. multicolor, Cam.]; Edw., loc. cit., XII, 69; Acton, etc., I. J. Med. R., VIII, 751<sup>5</sup>; Brun., R. I. M.,  $103^{6}$ .

Myzomyia turkhudi, Theo., Monog. Culic. III, 48, Pl. III; Blanch. Moustiques, 183; Brun., R. I. M., I, 311<sup>7</sup>; id., loc. cit., IV, 422; Theo., Monog. Culic., V, 26<sup>8</sup>.

Myzomyia azriki, Patton, Bom. Jo., XVI, 632, (1905)<sup>9</sup>; Theo., Monog. Culic., V, 27, figs. 8, 9<sup>10</sup> [carrier].

1, 6, 7, 8 Kashmir.
2, 4, 11, 12 N.-W. F. P.
5 Dagshai.
1, 2, 6, 7, 8 Punjab.
1, 2, 3, 6, 7, 8 Central India.
6, 7 Andamans.

<sup>&</sup>lt;sup>9</sup>, <sup>10</sup> Aden Hinterland. <sup>11</sup>, <sup>12</sup> Cyprus. <sup>13</sup> Teneriffe.

Anopheles culicifacies, Giles, E. M. M., XXXVII, 197, (1910), [male only]; Theo., Monog. Culic., II, 309, [male only]; Giles Handbook, (2nd. edn.), 317, Pl. IX, 12, [male only]; Theo., Proc. R. S., LXIX, 379, fig. 2, [male only; genitalia].

Pyretophorus nigrifasciatus, Theo.,
 Monog. Culic., IV, 65, (1907); id.,
 loc. cit., V, 37<sup>11</sup>; Brun., R. I. M., IV,
 424; Patton & Cragg, T. B. Med. Ent.,
 231; Brun., R. I. M., XVII, 113<sup>12</sup>.

? Myzomyia hispaniola, Theo., Monog. Culic., III, 49, (1903); id., loc. cit., V, 27<sup>13</sup>.

#### willmori, James.

Nyssorhynchus willmori, James in Theo., Monog. Culic., III, 100, figs. 59, 60, (1903); Blanch., Moustiques, 624; Brun., R. I. M., I, 321<sup>1</sup>; id., loc. cit., IV, 430<sup>2</sup>; Theo., Monog. Culic., V, 57<sup>3</sup>.

Neocellia willmori, James & List., Monog. Anoph. Mosq. Ind., (2nd. edn.), 1094, t. fig.

Anopheles willmori, Green, Trop. Agric., XXVI, 68<sup>5</sup>; Chris., I. J. Med. R., III, 484<sup>6</sup>; Wilson, loc. cit., I, 691<sup>7</sup>; Prashad, loc. cit., III, 498, Pl. XXIX, 1, [male genitalia]; Sinton, loc. cit., V, 197, 202, 207<sup>8</sup>, [varieties]; Prashad, loc. cit., V, 610, Pl. LVII-LXI, [thorax and wing]; id., loc. cit., V, 641, Pl. LXII-LXVI, [thoracic imaginal buds]; Gill, loc. cit., VII, 611<sup>9</sup>; Patton & Cragg, T. B. Med. Ent., 234; Ross, Prevention of Malaria 634, [carrier]; Brun., R. I. M., XVII, 111-112<sup>10</sup>.

Neocellia willmori var. maculosa, James & List., Monog. Anoph. Mosq. Ind., 2nd. edn.), 112, (1911)<sup>11</sup>.

 4, 6, 11 N.-W. F. P. to Assam (foot hills).
 1, 3, 4, 9 Kashmir.
 1 Lahore.
 4, 10, 12 Kangra Valley.
 10, 13 Dehra Dun.

<sup>3</sup> Duars. <sup>8</sup> Kohat.

<sup>7</sup> Madras.

<sup>2</sup>, <sup>3</sup>, <sup>5</sup> Ceylon.

<sup>3</sup>, <sup>10</sup> F. M. S

Anopheles maculatus var. willmori, Alcock, Jo. Lon. Sch. Trop. Med., III, (3), (1913).

Neocellia dudgeoni, Theo., Monog. Culic., IV, 112, (1907); Brun., R. I. M., IV, 432<sup>12</sup>; James & List., Monog. Anoph. Mosq. Ind., (2nd. edn.), 112.

Neocellia indica, Theo., Monog. Culic.,
 IV, 97, (1907); Brun., R. I. M., IV,
 432<sup>13</sup>; Patton & Cragg, T. B. Med.,
 Ent., 234.

#### MEGARHINI.

Megarhininæ, Theo., Monog. Culic., V, 88.

Megalorhinina, Patton & Cragg, T. B Med. Ent., 207.

Megarhini, Brun. R. I. M., X, 34.

# 4. Toxorhynchites, Theobald.

Toxorhynchites, Theo., Monog. Culic, I, 244, (1901); [Genotype, T. brevipalpis, Theo]; id., loc. cit., III, 119, [notes on life history]; id loc. cit., V, 95, [notes and table of spp.]; id., Gen. Ins., Fasc., XXVI, 13; Blanch., Moustiques, 229; Leic., Culic. Malaya, 59; Brun., R. I. M., I, 324; id., loc. cit., IV, 435; id., loc. cit., X, 72; id., loc. cit., XVII. 16; Giles, Handbook, (2nd. edn.), 278.

Teromyia Leic., Culic. Malaya, 49, (1908); [Genotype, T. acaudata, Le.]; Brun., R. I. M., IV, 438.

Worcesteria, Banks, Phil. Jo. Sci., I, 779, (1906); [Genotype, W. grata, Banks];
Theo., Monog. Culic., V, 110; Brun.,
R. I. M., I, 326; id. loc. cit., IV, 439;
id., loc. cit., X, 73.

gravelyi, Edwards.

Megarhinus (Toxorhynchites) gravelyi, <sup>1</sup> Darjiling. Edw., B. Ent. R., XII, 73, (1921)<sup>1</sup>.

#### kempi, Edwards.

(Toxorhynchites) Megarhinus Kempi, Edw., B. Ent. R., XII, 72,1 (1921).

<sup>1</sup> Castle Rock (Kanara).

# \*leicesteri, Theobald.

Toxorhynchites leicesteri, Theo., Entom., XXXVII, 36, (1904); id., Monog. Culic., IV, 1422; id., loc. cit., V, 993; Leic., Culic. Malaya, 59; Brun., R. I. M., I, 325; id., loc. cit., IV, 437; id., loc. cit., XVII, 1184.

#### Dungagalli.

<sup>2</sup>, <sup>3</sup>, <sup>4</sup> Kuala Lumpur.

<sup>4</sup> Papua.

#### minimus, Theobald.

Megarhinus minimus, Theo., Bom. Jo., 1, 2, 3, 4, 5 Yatiyantota. XVI, 237<sup>1</sup>; Pl. A, fig. 1, (1905); id., Monog. Culic., IV, 1382; Brun., R. I. 7, 8 Matale (Ceylon). M., I, 3243.

Toxorhynchites minimus, Theo., Monog. Culic., V, 1094; Brun., R. I. M., IV, 437<sup>5</sup>; James, I. J. Med. R., II, 263<sup>6</sup>; White, Spol. Zeyl., XI, 1897, [female described]; Brun., R. I. M., XVII, 274; White, I. J. Med. R., VIII, 3198.

<sup>8</sup> Colombo.

## splendens, Wiedemann.

Cutex splendens, Wd., Zool. Mag. (2) 1, (1819); id., Dipt. Exot. 7; Theo., Monog. Culic., I, 235.

Megarhinus splendens, Theo., Monog. Culic., V, 10914; Edw., A. M. N. H., VIII, 629.

argenteotarsis, Toxorhynchites Ludl., Can. Ent., XXXVIII, 367, (1908); Theo., Monog. Culic., V, 100; Brun., R. I. M., IV, 4357.

Megarhinus gilesii, Theo., Monog. Culic., I, 227, Pl. IX, 33, (1901).

<sup>2</sup>, <sup>13</sup> Bhim Tal.

2, 13 Sikkim.

2, 8, 13 Sylhet. 13 Lushai Hills.

<sup>2</sup>, <sup>13</sup> Burma.

2, 4, 8, 13 Calcutta.

\*This species was included here on the strength of a specimen from Dungagalli in the Pusa collection identified as leicesteri. Since this Catalogue was sent to pross, however, Mr. Edward's description of albipes, (Ind. Journ. Med. Res. X, 287-288; July 1922) has appeared and, on comparison with this description, the specimen in question is found to be albipes, Edw. The species leicesteri should therefore be omitted from the Indian list.—T. B. F. Toxorhynchites gilesii, Theo., Monog. Culic., V, 99<sup>8</sup>; Brun., R. I. M., IV, 435. Worcesteria grata, Banks, Phil. Jo. Sci., I, 780, Pl. (1906); Brun., R. I. M., I, 326<sup>9</sup>; Theo., Monog. Culic., V, 111, figs.

42, 43.

Megarhinus immisericors, Wlk., P. Linn. S. Lon., IV, 90<sup>1</sup>, (1860); Theo., Monog. Culic., I, 225, Pl. VII, 28; O-S., Berl. Ent. Zeit., XXVI, 96, [synonomy with amboinensis, Dol.].

Megarhina immisericors, Giles, Handbook, 119; id., loc. cit., (2nd. edn.),

273.

**Toxorhynchites** immisericors, Theo., Monog. Culic., III, 123, fig. 67; id., loc. cit., IV, 141; id., loc. cit., V, 97, figs. 2; id., R. I. M., IV, 4, [female redescribed]; Blanch., Moustiques, 230; Brun., R. I. M., I, 324; id., loc. cit., IV, 436; id., loc. cit., XVII, 117<sup>13</sup>; Green, Spol. Zeyl., II, 159, Pl. 3 [life history]; Paiva, R. I. M., V, 1874, [larval habits]; Edw., B. Ent. R., IV, 422; James, I. J. Med. R., II, 263<sup>5</sup>; Stanton, B. Ent. R., X, 333, [distribution in Far East. ports]; White, I. J. Med. R., VIII, 3196.

Megarhinus lewaldii, Ludl., Can. Ent., XXXVI, 233, (1904)<sup>20</sup>; Brun., R. I. M., I, 324.

Culex regius, Tennent, "Ceylon", Vol. I, (2), 268, (foot note) [nom. nud.]; Thwaites, P. Linn. S. Lon., VIII, 102, (1864)<sup>11</sup>, [description].

Toxorhynchites regius, Edw. B. Ent. R., VII, 202; Brun., R. I. M., XVII, 118, (foot note); Dyar., Ins. Ins. Mens., VIII, 183<sup>14</sup>; Edw., Ann. Trop. Med. Paras., XIV, 23, 40, [male genitalia].

? Megarhinus subulifer, Dol., Nat. Tijd. Ned. Ind.<sup>12</sup>, XIV, 382, (1857); Edw. Chittagong.
 <sup>13</sup> Mysore.
 <sup>13</sup> Travancore.
 <sup>3</sup> <sup>5</sup> <sup>6</sup> <sup>11</sup> <sup>13</sup> Ceylon.
 <sup>13</sup> Andamans.

<sup>2</sup>, <sup>8</sup> F. M. S. <sup>2</sup>, <sup>7</sup>, <sup>9</sup>, <sup>10</sup>, <sup>13</sup>, <sup>14</sup> Philippines. <sup>1</sup>, <sup>2</sup>, <sup>13</sup> Celebes. <sup>2</sup>, <sup>13</sup> Ceram. <sup>2</sup>, <sup>13</sup> Papua.

<sup>12</sup> Amboina. <sup>14</sup> Java.

<sup>14</sup> Sumatra.

<sup>14</sup> Singapore

B. Ent. R., VII, 202; Brun., R. I. M., XVII, 118, (foot note).

#### CULICINI.

Christophers, Paludism, III, 40-54, (1911), [Aids to identification of Culicidæ other than Anopheles, with special reference to Indian spp.]; Edwards, B. Ent. R., III, 1-53, [Key to W. African genera other than Anopheles: synonomy]; Patton & Cragg, T. B. Med. Ent., 203, [Key to genera of Culicina]; Brun., R. I. M., X, 35, [Genera in Culicini, with key].

# 5. Mucidus, Theobald.

Mucidus, Theo., Monog. Culic., I, 268, (1901)
[Genotype, Culex alternans, Wstwd.];
id., Gen. Ins. Fasc., XXVI, 17; id.,
Monog. Culic., III, 132, [larva]; id.,
loc. cit., V, 125, [table of spp.]; Giles,
Handbook, (2nd. edn.) 346; Blanch.,
Moustiques, 243; Leic., Culic. Malaya
69; Brun., R. I. M., IV, 440; id., loc.
cit., X, 39, 66; id., loc. cit., XVII, 119120; Alcock, Ent. for Med. Off., 104.

#### Laniger, Wiedemann.

Culex laniger, Wd., Dipt. Exot., 9, (1821); id., Auss. Zweifl. Ins., I, 5<sup>1</sup>;
 Mq., Dipt. Exot., I, (2), 176; Giles, Handbook, 211.

Mucidus laniger, Theo., Monog. Culic., I, 279; Blanch., Moustiques, 244; Edw., B. Ent. R., IV, 224; Theo., Monog. Culic., V, 132<sup>2</sup>; Brun., R. I. M., XVII, 120<sup>3</sup>; Stanton, I. J. Med. R., III, 256<sup>4</sup>.

Mucidus mucidus, Leic., (nec. Karsch.), Culic. Malaya, 69<sup>5</sup>, (1908).

[Not recognized as Indian since its description.]

1, 2, 3 Coromandel.

3, 4 Sumatra.

1, 2, 3 Java.

<sup>5</sup> F. M. S.

scatophagoides, Theobald.

Mucidus scatophagoides, Theo., Monog. Culic., I, 277, Pl. E, fig. 81, (1901); Giles, Handbook, (2nd. edn.), 348, Pl. XII, 1a, 2a; Blanch., Moustiques, 245; Brun., R. I. M., I, 3271; id., loc. cit., XVII, 1202; Edw., B. Ent. R., II, 2463; Hodgson, I. J. Med. R., II, 4144; Edw., B. Ent. R., III, 65; Green, Spol. Zeyl., IV, 1836.

Mucidus sudanensis, Theo., III, Rpt. Wellc. Lab., 2527, (1908); id., Monog. Culic., V, 129-131, figs. 44, 458.

# 6. Uranotænia, Arribalzaga.

Uranotænia, Arrib., Rev. Mus. la Plata, I,
405, (1891); [Genotype, U. pulcherrima, Arrib.]; Theo., Monog. Culic.,
II, 241, fig. 242, [map of distribution],
243, [table of spp.], Pl. D; id., loc. cit.,
V, 498, [table of spp.]; id., Gens. Ins.
Fasc., XXVI, 36; Blanch. Moustiques,
406; Giles, Handbook, (2nd edn.),
485, 487, [table of spp.]; Brun., R. I.
M., I, 363; id., loc. cit., IV, 495; id.,
loc. cit., X. 73; id., loc. cit., XVII,
173; Alcock, Ent. Med. Off., 104;
How. Dyar, Knab, Mosq. N. Amer.,
IV, 898.

Anisocheleomyia, Theo., Entom. XXXVIII, 52, (1905), [Genotype, A. nivipes Theo.]; id., Monog, Culic, IV, 570; Brun., R. I. M. I. 363; id. loc. cit., IV, 493; id. loc. cit., X, 55.

Pseudouranotænia, Theo., Jo. Econ. Biol., I, 33, (1905), [Genotype, P. rowlandii, Theo.]; id., Monog. Culic., IV, 566, fig. 262; Brun., R. I. M., IV. 494; id., loc. cit., X, 70.

<sup>4</sup> Delhi.

<sup>1</sup>, <sup>2</sup> Moradabad.

<sup>2</sup> Bengal.

<sup>3</sup> Trincomali.

<sup>1</sup> Burma.

3, 7, 8 Sudan.

<sup>3</sup> W. Africa.

<sup>5</sup> Uganda.

#### alboannulata, Theobald.

Anisocheleomyia alboannulata, Theo., Entom., XXXVIII, 54, (1905); id., Monog. Culic., IV, 573, f. 267, Pl. VII<sup>1</sup>; Brun., R. I. M., IV, 493.

1, 2 India, <sup>2</sup>, <sup>3</sup> Malaya

Uranotænia alboannulata, Edw., B. Ent. R., IV, 238; Brun., R. I. M., XVII,  $174^{2}$ .

Uranotænia trilineata, Leic. Culic. Ma-Iaya, 204, (1908); Brun., R. I. M., IV, 498<sup>3</sup>.

## atra, Theobald.

Uranotænia atra, Theo. Ann. Mus. Hung., III, 114 (1905)<sup>1</sup>; id., Monog. Culic., IV, 563; Edw., B. Ent, R., IV, 1, 2 Papua 238; Brun., R I. M., XVII, 1743.

Uranotænia ceylonica, Theo., Monog. Culic., V, 503, f. 2132 (1910).

# 2, 3 Galle.

# campestris, Leicester.

Uranotænia campestris, Leic. Culic. Ma- 4 Matale. laya, 213, (1908); Brun., R. I. M., IV. 4951; Stanton, B. Ent. R., X, 3332 1, 2, 3 Malaysia. [distribution in far East. ports]; Brun., R. I. M., XVII, 1753; White, I. J. Med. R., VIII, 3194.

#### lateralis, Ludlow.

Uranotænia cæuleocephala var. lateralis, Ludl., Can. Ent., XXXVII, 385, (1905); id., Mosq. Phil. Ids., 10.

Uranotænia lateralis, Banks, Phil. Jo. Sci., I, (9), 990, (1906); Theol., Monog. Culic. V, 506-5082; James, I. J. Med. R., II, 2634; Brun., R. I. M., XVII,  $174^{3}$ .

# <sup>4</sup> Colombo.

1, 2, 3 Philippines

#### testacea, Theobold.

Uranotænia testacea, Theo., Ann. Mus., Hung., III, 113, f. 14, Pl. II, Pl. III, (1905); id., Monog. Culic IV, 560,

<sup>2</sup> Dawnat Range. Gauhati (White). fig. 258<sup>1</sup>; Edw., B. Ent. R., IV, 239; Brun., R. I. M., XVII, 174<sup>2</sup>.

Uranotænia falcipes, Banks, Phil., Jo. Sci., I, 1004, (1906).<sup>3</sup>

Uranotænia unilineata, Leic., Culic. Malaya, 220, (1908); Brun., R. I. M., IV, 4984.

<sup>2</sup>, <sup>3</sup> Philippines.

<sup>2</sup>, <sup>4</sup> Malaysia. <sup>1</sup>, <sup>2</sup> Singapore.

# 7. Aedeomyia, Theobald.

Aedeomyia, Theo., Monog. Culic., II, 218, f. 259, 260, [map of distribution], (1901); [Genotype, A. squamipenna, Arrib.]; id., Jo. Trop. Med., IV, 235, [nom. nud.]; id., Monog. Culic.; V, 486; id., Gen. Ins. Fasc., XXVI, 35; Blanch., Moustiques, 403, fig. 255; Leic., Culic. Malaya, 181; Brun., R. I. M., I, 366; id., loc. cit., IV, 488; id., loc. cit., X, 54; id., loc. cit., XVII, 177; How., Dyar & Knab, Mosq. N. Amer., IV, 893. Aedomyia, Giles, Handbook, (2nd. edn.), 478; Edw., B. Ent. R., III, 24.

#### catasticta, Knab.

Aedeomyia catasticta, Knab, Ent. News, XX, 387, (1909); Brun., R. I. M., IV, 488; Edw., B. Ent. R., III, 25, [differences from squamipenna]; Brun., R. I. M., XVII, 177-8<sup>1</sup>; Edw., B. Ent. R., III, 379, figs. 4, 5, [larva]; id., loc. cit., VII, fig. 10b, [male genitalia]; Stanton, loc. cit., X, 333, [distribution in far East. ports]; James, I. J. Med. R., II, 263<sup>2</sup>, [catastricta].

#### <sup>2</sup> Colombo.

# squamipenna, Arribalzaga.

Aedes squamipennis, Arrib., El. Nat. Argent., I, 151<sup>1</sup>, (1878); Giles, Handbook, 347.

Aedes squamipenna, Arrib., Dipt. Argent. 62.

3, 4, <sup>5</sup> Calcutta.

<sup>2</sup>, <sup>4</sup> Madras.

3, 4 Dawnat Range.

3, 4 Tuticorin.

<sup>2</sup>, <sup>4</sup> Ceylon.

<sup>&</sup>lt;sup>1</sup> Philippines.

<sup>&</sup>lt;sup>1</sup> Africa—general.

Aedeomyia squamipenna, Theo., Monog. Culic., II, 219, fig. 261, Pl. XXXI, 124, Pl. E; id., loc. cit., III, 307; Leic., Culic. Malaya, 182; Paiva, R. I. M., V, 202; Green, Spol. Zeyl., IV, 483; Edw., B. Ent. R., VII, fig. 10a, [male genitalia]; Iyengar, I. J. Med. R., 1920 Sci., Cong., No., 9<sup>5</sup>; Brun., R. I. M., I, 366<sup>2</sup>; id., loc. cit., IV, 488<sup>3</sup>; id., loc. cit., XVII, 177<sup>4</sup>.

Aedeomyia squamipennis, Blanch., Moustiques, 404.

Aedeomyia squammipennis, Theo., Gen. Ins. Fasc., XXVI, Pl. II, 9; Giles, Handbook, (2nd. edn.), 479.

## 8. Ficalbia, Theobald.

Ficalbia, Theo., Monog. Culic., III, 296, (1903), [Genotype U. minima, Theo.]; id., loc. cit., IV, 577, [table of spp.]; id., loc. cit., V, 541, [table of spp.]; id., Gen. Ins. Fasc., XXVI, 36; Blanch., Moustiques, 418; Leic., Culic. Malaya, 228; Edw., B. Ent. R., IV, 237; Brun., R. I. M., I, 362; id., loc. cit., IV, 494; id., loc. cit., X, 60; id., loc. cit., XVII, 170-1.

Dasymyia, Leic., Culic. Malaya, 113, (1908),
 [Genotype, D. fusca, Lc.]; Brun., R. I.
 M., IV, 453; id., loc. cit., X, 59.

Etorleptiomyia, Theo., I Rpt., Welle. Lab., 71, (1904), [Genotype, E. mediolineata, Theo.]; id., Gen. Ins. Fasc., XXVI, 44; id., Monog. Culic., IV, 505; Leic., Culic. Malaya, 178; Brun., R. I. M., I, 368; id., loc. cit., IV, 484; id., loc. cit., X, 60; Blanch., Moustiques, 632.

Ingramia, Edw., B. Ent. R., III, 43, (1912), [Genotype Mimomyia malfeyti, News.].

O'reillia, Ludl., Can. Ent., XXXVII, 101, (1905), [Genotype, O. luzonensis, Ludl.].

<sup>3</sup>, <sup>4</sup> F. M. S. <sup>2</sup>, <sup>4</sup> Philippines. <sup>2</sup> Papua. <sup>2</sup>, <sup>4</sup> Sudan. <sup>2</sup>, <sup>4</sup> W. Indies.

1, 2, 4 S. America.

#### dofleini, Guenther.

Ficalbia dofleini, Guen., Zeit. f. Wiss. Insekt., IX, 204<sup>1</sup>, figs. 1, 2, 259, figs. 3-14, (1914) [described from larva and pupa only]; Brun., R. I. M., XVII, 173<sup>2</sup>. <sup>1</sup>, <sup>2</sup> Ceylon.

## luzonensis, Ludlow.

O'reillia luzonensis, Ludl., Can. Ent., XXXVII, 101<sup>1</sup> (1905).

Etorleptiomyia luzonensis, Ludl., Can. Ent., XXXVIII, 185; Theo., Monog. Culic., IV, 506.

Ficalbia luzonensis, Edw., B. Ent. R., IV, 238; James, I. J. Med. R., II, 263<sup>3</sup>; Brun., R. I. M., XVII, 172<sup>2</sup>.

Etorleptiomyia completiva, Leic., Culic. Malaya, 1784, (1908); Brun., R. I. M., IV, 484<sup>5</sup>.

<sup>3</sup> Colombo.

<sup>2</sup>, <sup>4</sup>, <sup>5</sup> Singapore.
<sup>1</sup>, <sup>2</sup> Philippines. .

#### minima, Theobald.

Uranotænia minima, Theo., Monog. Culic. II, 262, fig. 281<sup>1</sup>, (1901); Giles, Handbook, (2nd. edn.), 488.

Ficalbia minima, Theo., Monog. Culic., III, 296; Blanch., Moustiques, 418; Brun., R. I. M., IV, 494; Edw., B. Ent. R., IV, 238; Brun., R. I. M., XVII, 171<sup>2</sup>.

Mimomyia minuta, Theo., R. I. M., II, 301, (1908)<sup>3</sup>; id., loc. cit., IV, 30<sup>4</sup>, Pl. I, Pl. III; id., Monog. Culic., V, 531<sup>6</sup>, f. 226; Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 9<sup>5</sup>.

# <sup>2</sup>, <sup>3</sup>, <sup>4</sup>, <sup>6</sup> Sylhet. <sup>2</sup>, <sup>4</sup>, <sup>5</sup>, <sup>6</sup> Calcutta. <sup>1</sup>, <sup>2</sup> Quilon.

## 9. Mimomyia, Theobald.

Mimomyia, Theo., Monog. Culic., III, 304, (1903) [Genotype, M. splendens, Theo.]; id., Gen. Ins. fasc., XXVI, 36; id., 1st Rpt. Welle. Lab., 79; id., Monog. Culic., IV, 581; Edw., B. Ent. R., III, 35.

Boycia, News., Ann. Trop. Med. Paras., I, 33, (1907); [Genotype, B. mimo-myiaformis, News.].

Conopomyia, Leic., Culic. Malaya, 113, (1908) [Genotype, C. metallica, Leic.]; Brun., R. I. M., IV, 453; id., loc. cit., X, 58.

Hispidimyia, Theo., Monog. Culic., V, 245, (1910) [Genotype, H. hispida, Theo.].

Ludlowia, Theo., Monog. Culic., IV, 193, (1907) [Genotype, Mimomyia chamber-laini, Ludl.]; id., loc. cit., V, 190, [table of spp.]; Brun., R. I. M., IV, 493; id., loc. cit., X, 64; Edw., B. Ent. R., II, 244.

Megaculex, Theo., Monog. Culic., IV, 282, (1907) [Genotype, Culex albitarsis, Theo.]; id., Nov. Culic., I, 12, [Radioculex sunk.].

Radioculex, Theo., R. I. M., II, 295, (1908)
[Genotype, R. clavipalpus, Theo.];
id., Monog. Culic., V, 192; Brun.,
R. I. M., IV, 465; id., loc. cit., X, 70.

## chamberlaini, Ludlow.

Mimomyia chamberlaini, Ludl., Can. Ent., XXXVI, 297, (1904)<sup>1</sup>; James, I. J. Med. R., II, 263<sup>2</sup>.

Ficalbia chamberlaini, Brun., R. I. M., XVII, 172<sup>3</sup>.

Ludlowia chamberlaini, Theo., Monog. Culic., IV, 194; Edw., B. Ent. R., II, 244; Brun., R. I. M., IV, 493.

Radioculex clavipalpus, Theo., R. I. M., II, 295<sup>4</sup>, (1908); id., loc. cit., IV, 26<sup>5</sup>, Pl. I, Pl. II; id, Monog. Culic., V, 193<sup>6</sup>, figs. 70, 71; Brun., R. I. M., IV, 465; Theo., Nov. Culic, I, 13; Cruick. Wright, I. J. Med. R., I, 773<sup>7</sup>; Iyengar, loc. cit., 1920 Sci. Cong. No., 9<sup>8</sup>.

Ficalbia clavipalpus, Brun., R. I. M., XVII, 1729.

4, 5, 6, 8, 9 Bengal. 5, 6, 9 Rangoon.

5, 6, 7, 9 Malabar Coast.

<sup>2</sup> Ceylon.

<sup>1</sup>, <sup>3</sup> Philippines.

# 10. Aedes, Meigen.

Aedes, Mg., Syst. Besch., I, 13, (1818), [Genotype, A. cinereus, Mg.]; R.-D., Mem. Soc. Hist. Nat., Paris, III, 403; Mq., H. N. Dipt., I, 37; Zett., Dipt. Scand., IX, 3469; Sch., F. Aust., II, 630; Fig. B. S. Ent. Ital., 299, (1896); Theo., Monog. Culic., II, 224; id., loc. cit., III, 285, [restricted]; id., loc. cit., V, 482, [table of spp.]; id., Gen. Ins. Fasc., XXVI, 35; Giles, Handbook, 343; id., loc. cit., (2nd. edn.), 480, 346, [table of spp.]; Blanch., Moustiques, 399; Leic., Culic. Malaya, 183; Brun., R. I. M., IV, 489; id., loc. cit., X, 45; id., loc. cit., XVII, 141-2; Alcock, Ent. Med. Off., 102; Edw., B. Ent. R., IV, 229; id., loc. cit., VII, 203; How. Dyar. & Knab, Mosq. N. Amer., IV, (2), 612; Séguy, B. S. Ent. Fr., 1920, (18) 309-311, [notes on larva of cantans group].

Aioretomyia, Leic., Culic. Malaya, 185, (1908) [Genotype, A. varietas, Leic.]; Brun., R. I. M., IV, 490; id., loc. cit., X, 55.

Catageiomyia, Theo., Monog. Culic., V, 115, 1910) [nom. nud.].

Heteronycha, Arrib., Rev. Mus. la Plata, I, 397, (1891) [Genotype, Culex aestuans, Wd. as dolosa, Arrib.].

Macleaya, Theo., Entom. XXXVI, 154, (1903) [Genotype. M. tremula, Theo.]; id., Monog. Culic., IV, 203.

Neomacleaya, Theo., Monog. Culic., IV, 238, 1907) [Genotype, N. indica, Theo.].

Skusea, Theo., Monog. Culic., III 291, (1903) [Genotype, S. pembaensis, Theo.]; id., loc. cit., IV, 542; id., loc. cit.V, 488, [table of spp.]; id., Gen. Ins. fasc., XXVI 19; Blanch., Moustiques, 416; Brun., R. I. M., I, 335; id., loc.

cit., IV, 450; id., loc. cit., X, 71; Edw., B. Ent. R., VII, 202.

Verrallina, Theo., Monog. Culic., III, 295, (1903) [Genotype, Aedes butleri, Theo.]; id., loc. cit., V, 494, [table of spp.]; Blanch. Moustiques, 417; Leic., Culic. Malaya, 196; Edw., B. Ent. R., IV, 229.

#### butleri, Theobald.

Aedes butleri, Theo., Monog. Culic., II, 230, (1901)<sup>1</sup>; Giles, Handbook, (2nd edn.), 481; Edw., B. Ent. R., IV, 229; James, I. J. Med. R., II 262<sup>2</sup>; Brun., R. I. M., I, 367<sup>3</sup>; id., loc. cit., IV, 489; id., loc. cit., XVII, 143<sup>4</sup>.

Verrallina butleri, Theo., Monog. Culic., III, 295; Blanch., Moustiques, 417; Leic., Culic. Malaya, 196; Brun., R. I. M., IV, 491.

Skusea diurna, Theo., Entom., XXXVI,
259, (1903); id., Monog. Culic., IV,
547; Brun., R. I. M., I, 335<sup>5</sup>; id., loc.
cit., IV, 451.

Stegomyia hatiensis, Carter, Entom., XLIII, 275<sup>6</sup>, (1910).

#### ceylonicus, Edwards.

Aedes ceylonicus, Edw., B. Ent. R., VII, 221, fig. 8a, (1917); Brun., R. I. M., <sup>1</sup> XVII, 145<sup>2</sup>.

#### indicus, Theobald.

Neomacleaya indica, Theo., Monog. Culic., IV, 238, (1907); Brun., R. I. M., IV, 458<sup>1</sup>, [nec. var. simplex, Theo.]. Aedes indicus, Edw., B. Ent. R., IV, 229; Brun., R. I. M., XVII, 143<sup>2</sup>.

Skusea mediofasciata, Theo., Monog. Culic., IV, 544, figs. 249, 250, Pl. IX, (1907); Brun., R. I. M., IV, 4513.

Pseudoskusea mediolineata, Ludl., Can. Ent., XL, 332, (1908)<sup>4</sup>. Gauhati (White).

<sup>2</sup> Colombo.

4, <sup>6</sup> Philippines.
1, <sup>3</sup>, <sup>4</sup>, <sup>5</sup> Malaya.

1, 2 Colombo.

<sup>1</sup>, <sup>2</sup>, <sup>3</sup> India.
<sup>1</sup>, <sup>2</sup> Ceylon.

1, 2, 3, 4, 5 Philippines.

Pseudoskusea nigritarsis, Ludl., Can. Ent. XL, 52, (1908)<sup>5</sup>.

nigrescens. Theobald.

Aedes nigrescens, Theo., Monog. Culic., 1, 2, 3 Castle Rock IV, 540<sup>1</sup>, figs. 246, 247, (1907); Brun., R. I. M., IV, 490<sup>2</sup>; id., loc. cit., XVII,  $144^{3}$ .

(Kanara).

pseudodiurnus, Theobald.

Skusea pseudodiurna, Theo., R. I. M., 1, 2, 3 Sukna (N. Bengal). IV, 321, (1910); id., Monog. Culic., V, 491; Brun., R. I. M., IV, 4512. Aedes pseudodiurna, Brun., R. I. M., XVII, 144-5<sup>3</sup>.

pseudomediofasciatus, Theobald.

pseudomediofasciata, Theo., Skusea Monog. Culic., V, 489, figs. 211, 2121, (1910).

Aedes pseudomediofasciatus, James, I. J. Med. R., II, 2622; Brun., R. I. M., XVII, 1453.

1, B Peradeniva. <sup>1</sup>, <sup>3</sup> Hakgala. <sup>2</sup> Colombo.

(All Ceylon.)

punctipes, Edwards.

Aedes (Skusea) punctipes, Edw., B. Ent. 1 Maymyo. R., XII, 77<sup>1</sup>, (1921).

simplex, Theobald.

Ficalbia simplex, Theo., Monog. Culic., III, 297, (1903); id., loc. cit., V, 541, fig. 235<sup>1</sup>; Blanch., Moustiques, 418; Brun., R. I. M., XVII, 171-22.

Aedes simplex, Edw., B. Ent. R., IV, 238. Skusea simplex, Edw., B. Ent. R., VII, 224, figs. 9, b. c.

<sup>1</sup>, <sup>3</sup> Trincomali. Kurunegalla. <sup>2</sup> (Both Ceylon.)

uncus, Theobald.

Culex uncus, Theo., Monog. Culic., II, <sup>2</sup>, <sup>3</sup> Sylhet. 53, (1901); Giles, Handbook, (2nd edn.), 452; Blanch., Moustiques, 350, 1, 2, 4 F. M. S. Theo., Monog. Culic., V, 357<sup>1</sup>.

Aedes uncus, Edw., B. Ent. R., IV, 229; id., loc. cit., VII, 223, fig. 8, d; Brun., R. I. M., XVII, 143<sup>2</sup>.

Neomacleaya indica var. simplex, Theo., R. I. M., II, 291, (1908)<sup>3</sup>.

? Verrallina malayi, Leic., Culic. Malaya, 198, (1908)4.

# uniformis, Theobald.

Skusea uniformis, Theo., R. I. M., IV, <sup>1</sup>, <sup>2</sup>, <sup>3</sup> Travancore. 33, (1910)<sup>1</sup>; *id.*, Monog. Culic., V, 491<sup>2</sup>.

Aedes uniformis, Brun., R. I. M., XVII, 145<sup>3</sup>.

#### yerburyi, Edwards.

Aedes yerburyi, Edw., B. Ent. R., VII, <sup>1</sup>, <sup>2</sup> Ceylon (? Kitli). 22, fig. 8c, (1917)<sup>1</sup>; Brun., R. I. M., XVII, 145<sup>2</sup>.

# 11. Armigeres, Theobald.

Armigeres, Theo., Monog. Culic., I, 322, (1901) [Genotype, Culex obturbans, Wlk.] Giles, Handbook, (2nd. edn.), 384; Edw., B. Ent. R., IV, 224; id., loc. cit., VII, 202, [table of spp., etc.]; Brun., R. I. M., X, 55; id., loc. cit., XVII, 121.

Blanchardiomyia, Brun., R. I. M. IV, 440, (1912) [nom. nov. fr. Desvoidya proæcc.]; id., loc. cit., X, 156.

Desvoidya, Blanch., C. R. Soc. Biol., LIII, 1035, (1901); [nom. nov. for Armigeres, presumed præocc.]; id., Moustiques, 265; Theo., Gen. Ins. Fasc., XXVI, 17; id., Monog. Culic., IV, 163, [table of spp.]; id., loc. cit., V, 141, [table of spp.]; Brun., R. I. M., I, 327; Leic., Culic. Malaya, 74.

Desvoidea, Theo., Monog. Culic., III, 134, [larva].

#### apicalis, Theobald.

Desvoidea apicalis, Theo., R. I. M., IV, 5, (1910)<sup>1</sup>.

Desvoidya apicalis, Fry, Malaria in Bengal, 36<sup>2</sup>.

Blanchardiomyia apicalis, Brun., R. I. M., IV, 441.

Armigeres apicalis, Edw., B. Ent. R., IV, 225; Brun., R. I. M., XVII, 1234.

Stegomyia crassipes, Theo., [nec. Wulp.], Monog. Culic., I, 3205, Pl. XXXIV, 134, (1901); Giles, Jo. Trop. Med., VII, 367; id., Handbook, (2nd. edn.), 381; Brun., R. I. M., I, 3296; id., loc. cit., IV, 4453.

1, 3, 4 Puri. <sup>2</sup> Siliguri. Cherrapunji (White. <sup>5</sup>, <sup>6</sup> Upper Burma.

<sup>6</sup> Philippines.

#### aureolineatus, Leicester.

Desvoidya aureolineata, Leic., Culic. Ma- 3, 4 Ceylon. laya, 79, (1908)<sup>1</sup>.

Blanchardiomyia aureolineata, Brun., R. I. M., IV, 441<sup>2</sup>.

Armigeres aureolineata, James, I. J. Med. R., II, 262<sup>3</sup>; White, loc. cit., VIII,  $316^{4}$ .

Armigeres aureolineatus, Edw., B. Ent. R., VII, 205, fig. 1, [genitalia]; Brun., R. I. M., XVII, 1235.

1, 2, 5 F. M. S.

# fuscus, Theobald.

Desvoidea fusca, Theo., Monog. Culic., III, 135, figs. 75-6, Pl. XVII, (1903); id., loc. cit., IV, 165; id., loc. cit., V, 1421; Brun., R. I. M., I, 327; Leic., Culic. Malaya, 782.

Desvoidya fusca, Banks, Phil. Jo. Sci., I,  $(9), 983^3.$ 

Blanchardiomyia fusca, Brun., R. I. M., IV, 4414.

Armigeres fusca, Brun., R. I. M., XVII,  $122, 274^5.$ 

Armigeres malayi, Edw., (nec. Theo.), B. Ent. R., VII, 207, fig. 3, [genitalia]. <sup>1</sup>, <sup>4</sup>, <sup>5</sup> Sylhet.

<sup>1</sup>, <sup>4</sup>, <sup>5</sup> Lushai Hills.

1, 4, 5 Calcutta.

<sup>1</sup>, <sup>2</sup>, <sup>5</sup> Jugra. (F. M. S.)

1, 3, 5 Philippines.

#### obturbans, Walker.

Culex obturbans, Wlk., P. Linn. S. Lon., IV, 91, (1860); Giles, Handbook, 338. Armigeres obturbans, Theo., Monog. Culic., I, 323, figs. 104-106; Green, Trop. Agric., XXV, 97<sup>1</sup>; Dyar, Ins. Ins. Mens., VIII, 181<sup>2</sup>; Edw., B. Ent., R., VII, 205, fig. 2, [genitalia]; James, I. J. Med. R., II, 262<sup>3</sup>; Stanton, B. Ent. R., X, 333, [distribution in far East. ports; Fletcher, Pusa, Sci., Rpt. (1916-17), 101, [breeding places]4; Sharma, loc. cit., (1919-20), 105, [repellents]; Brun., R. I. M., XVII, 121-25; White, I. J. Med. R., VIII, 316.6

Desvoidea obturbans, Theo., Monog. Culic., III, 138, figs. 75, 77, 78; id., loc. cit., IV, figs. 47, 48; Cruick. & Wright, I. J. Med. R., I, 773, Green, Trop. Agric., XXXV, 122, [breeding grounds]; Bentley, Malaria in Bombay, 62, Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 910.

Desvoidya obturbans, Blanch., Moustiques, 266; Leic. Culic. Malaya, 75, [notes on varieties]<sup>11</sup>; Brun., R. I. M., I, 328; Hodgson, I. J. Med. R., II, 415<sup>12</sup>.

Blanchardiomyia obturbans, Brun., R. I. M., IV, 442.

Culex subalbatus, Coq., Proc. U. S. Nat. Mus., XXI, 302, (1898)<sup>13</sup>.

Culex ventralis, Wlk., P. Linn. S. Lon., V, 144, (1861), [nec. ventralis, id., loc. cit., VIII, 103]; Giles, Handbook, 339.

Armigeres ventralis, Theo., Monog. Culic., Pl. XV, 57; Giles, Handbook, (2nd. edn.), 385, Pl. XIV, II, 12).

#### 12. Leicesteria, Theobald.

Leicesteria, Theo., Entom., XXXVII, 211, (1904), [Genotype, L. longipalpis,

- 12, Delhi.
- <sup>5</sup>, Naini Tal.
- <sup>5</sup> Kurseong.
- <sup>5</sup>, Sukna.
- <sup>5</sup>, Sylhet.
- <sup>5</sup>, Lushai Hills.
- <sup>4</sup>, <sup>5</sup>, Bihar.
- <sup>5</sup>, Meerut.
- <sup>5</sup>, Madras.
- <sup>5</sup>, <sup>7</sup>, Travancore.
- 1, 3, 5, 6, 8, Ceylon.
- <sup>9</sup>, Bombay.
- <sup>10</sup>, Calcutta.
- <sup>5</sup>, Amboina.
- <sup>2</sup>, <sup>13</sup>, Philippines.
- <sup>5</sup>, Ceram.
- <sup>5</sup>, Celebes.
- <sup>5</sup>, <sup>11</sup>, Fed. Malay States.
- <sup>5</sup>, Java.
- <sup>5</sup>, Papua.
- <sup>5</sup>, China.
- <sup>5</sup>, Formosa.

Leic.]; id., Gen. Ins. fasc., XXVI, 20; id., Monog. Culic., IV, 201; id., loc. cit., V, 212; Leic., Culic. Malaya, 94; Edw., B. Ent. R., IV, 255, 257, [table of Oriental spp.]; id., loc. cit., V, 126, [probably congeneric with Armigeres]; Brun., R. I. M., I, 337; id., loc. cit., IV, 454; id., loc. cit., X, 63; id., loc. cit., XVII, 145-6.

Brevirhynchus, Theo., R. I. M., II, 293, (1908)
[Genotype, B. magnus, Theo.]; id.,
Monog. Culic., V, 144, [table of spp.];
Brun., R. I. M., IV, 442; id., loc. cit.,
X, 56.

Chætomyia, Leic., Culic. Malaya, 100, (1908) [Genotype, C. flava, Leic.].

Leicesteriomyia, Brun., R. I. M., IV, 452, (1912) [nom. nov. for Chætomyia, præocc.]; id., loc. cit., X, 63.

annulipalpis, Theobald.

Brevirhynchus annulipalpis, Theo., R. I M., IV, 6, (1910)<sup>1</sup>; *id.*, Monog. Culic., V, 148<sup>2</sup>; Brun., R. I. M., IV, 442.

Leicesteria annulipalpis, Edw., B. Ent. R., IV, 257, fig. 1; Brun., R. I. M., XVII, 147<sup>3</sup>; Edw., B. Ent. R., XII, 74<sup>4</sup>.

1, 2, 3 Travancore.

<sup>4</sup> Sumatra.

# flava, Leicester.

Chætomyia flava, Leic., Culic. Malaya, 101, (1908)<sup>1</sup>.

Leicesteria flava, Edw., B. Ent. R., IV, 258, fig. 1; Fry, Malaria in Bengal, 36<sup>2</sup>; Brun., R. I. M., XVII, 146-7<sup>3</sup>.

Leicesteriomyia flava, Brun., R. I. M., IV, 453<sup>3</sup>.

Leicesteria apicalis, Theo., R. I. M., II, 291, (1908)<sup>5</sup>; id., loc. cit., IV, Pl. II, Pl. III, id., Monog. Culic., V, 213<sup>6</sup>, fig. 86; Brun., R. I. M., IV, 454<sup>7</sup>.

8, 9, 10 Sylhet.
 2 Siliguri.
 5, 6, 7 Lushai Hills.
 1, 3, 4 F. M. S.
 3, Sarawak.

Brevirhynchus apicalis, Theo., R. I. M., IV, 78; id., Monog. Culic., V, 1499; Brun., R. I. M., IV, 44310.

#### magna, Theobald.

Brevirhynchus magnus, Theo., R. I. M., II, 293<sup>1</sup>, (1908); id., loc. cit., IV, Pl. ii, Pl. iii; id., Monog. Culic., V, 145, figs. 51, 522; Brun., R. I. M., IV, 4433. Armigeres magnus, Fletcher, Pusa Sci., Rpt., (1916-17), 1014 [bionomics].

Leicesteria magna, Edw., B. Ent. R., IV, 259, fig. 2; Brun., R. I. M., XVII,  $146^{5}$ .

Leicesteria annulitarsis, Leic., Malaya, 100, (1908); Brun., R. I. M., IV, 4546.

Toxorhynchites rectirostris, Giles, in Theo., Monog. Culic., V, 2147, (1910), [nom. nud.].

1, 2, 3, 5 Sylhet. <sup>2</sup>, <sup>3</sup>, <sup>5</sup> Sukna. <sup>4</sup> Pusa.

2, 3, 5 Travancore.

5, 6 F. M. S. <sup>5</sup>, <sup>7</sup> Philippines.

# omissa, Edwards.

Leicesteria omissa, Edw., B. Ent. R., V, 1, 2, 3 Colombo. 76<sup>1</sup>, (1914); James, I. J. Med. R., II, 262<sup>2</sup>; Brun., R. I. M., XVII, 147<sup>3</sup>.

<sup>1</sup>, <sup>3</sup> Peradeniya.

# 13. Stegomyia, Theobald.

Stegomyia, Theo., in How., Mosquitos, 233, (1st Jany., 1901) [Genotype, Culex fasciatus F. as calopus, Mg.]; id., Monog. Culic., I, 283, [table of spp.], 284, [map of distribution]; id., loc. cit., IV, 170-1, [table of spp.]; id., loc. cit., V, 151, [table of spp.]; id., Gen. Ins. fasc., XXVI, 18; Giles Handbook, (2nd. edn.), 368-9, [table of spp.]; Blanch. Moustiques, 247, figs. 194, p. 248, [table of spp.]; Brun., R. I. M., I, 328; id., loc. cit., IV, 443; id., loc. cit., X, 39; id., loc. cit., XVII, 124, 125, 274; Leic., Culic. Malaya, 81,

[table of Malayan spp.]; Alcock. Ent. Med. Off., 100; Edw., B. Ent. R., VII, 203; White, Science (n. s.), XXIII, 371; Patton & Cragg, T. B. Med. Ent., 215.

Gymnometopa, Coq., P. Ent. S. Wash., VII, 183, (1906) [Genotype, S. mediovittata, Coq.].

Hulecoetomyia, Theo., Entom., XXXVII, 163,
1904) [Genotype H. trilineata, Leic.];
id., Monog. Culic., IV, 219; Brun.,
R. I. M., X, 62.

Kingia, Theo., Monog. Culic., V, 135, (1910) [Genotype, Steg. luteocephala, News.]; Brun., R. I. M., X, 63.

Quasistegomyia, Theo., II Rpt. Wellc. Lab., 69, (1906) [Genotype, Q. unilineata, Theo.]; id., Monog. Culic., IV, 165; id., loc. cit., V, 132, [table of spp.]; Brun., R. I. M., IV, 443; id., loc. cit., X, 70.

Scutomyia, Theo., Entom., XXXVII, 77, (1904) [Genotype, Culex sugens, Wd.]; id., Monog. Culic., IV, 196; id., loc. cit., V, 199), [table of spp.]; id., Gen. Ins. fasc., XXVI, 19; Leic., Culic. Malaya, 105; Brun., R. I. M., I, 336; id., loc. cit., IV, 452; id., loc. cit., X, 71.

#### albolineata, Giles.

Culex albolineatus, (I), Giles, Bom. Jo., XIII, 609, (1901)<sup>1</sup>, [provis. descr.]; id., Handbook, (2nd. edn.), 430, Pl. XVII, 10a; Theso., Monog. Culic., V, 360<sup>2</sup>.

Seutomyia albolineata, Brun., R. I. M., I, 336; id., loc. cit., IV, 452.

Stegomyia albolineata, Brun., R. I. M., XVII, 1273.

[Apparently not recognized since its description.]

1, 2, 3 Shahjahanpur.

albopicta, Skuse.

Culex albopictus, Skuse, I. M. N., III, 20, (1895)<sup>1</sup>; Giles, Handbook, 228.

Stegomyia albopictus, Brun., R. I. M., I, 334<sup>2</sup>; Dyar, Ins. Ins. Mens., VIII, 182.

Stegomyia albopicta, Edw., B. Ent. R.,
VII, 209, fig. 5b, [genitalia]; id., B.
Ent. R., XI, 134; Brun., R. I. M.,
XVII, 126, 127; White, I. J. Med. R.,
VIII, 316, (footnote).

Culex scutellaris, Giles, Handbook, 224. Stegomyia scutellaris, Theo., (nec. Wlk.), Monog. Culic., I, 298, fig. 91, Pl. XIV, 53, (1901); Giles, Handbook, (2nd edn.), 374, Pl. XIV, 4, 5; Blanch., Moustiques, 257; Leic., Culic. Malaya, 86; Brun., R. I. M., I, 333; id., loc. cit., IV, 448; Green, Trop. Agric., XXV, 297; id., loc. cit., XXVI, 494; id., loc. cit., XXXVI, 234; id., Spol. Zeyl., IV, 183; Annan., R. I. M., I, 83; Theo., loc. cit., II, 289; Cruick. & Wright, I. J. Med. R., I, 773-784; Hodgson, loc. cit., II, 415; James, loc. cit., II, 262; Prashad, loc. cit., III, 500, Pl. XXX, 4, [male genitalia]; Sen, loc. cit., IV, 729, [ovulation]; Mc Farl., B. Ent. R., VI, 67; Stanton, loc. cit., X, 333, [distribution] in Far East. ports]; Howlett, Pusa Sci. Rpt. (1911-12), 75, [eggs]; Fletcher, loc. cit., (1915-16), 83; Howlett, Proc., III Meet. Mal. Com., 1912, 31, [crosses with fasciata]; Bentley, Malaria in Bombay, 62; Stanton, I. J. Med. R., III, 256; Tayl. T. Ent. S. Lon., (1914), 189; id., P. Linn. S., N. S. W., XXXIX, 455.

Stegomyia scutellaris var. samarensis<sup>3</sup>, Ludl., Jo. N. Y. Ent. S., XI, 138, (1903); id., Can. Ent., XXXVI, 71; <sup>1</sup>, <sup>2</sup> India.

<sup>3</sup> Philippines.

<sup>4</sup> Sumatra.

5, 6 Madagascar.

<sup>6</sup> Amboina.

Almost universally distributed from Madagascar to Japan and Honolulu.

id., loc. cit., XXXVII, 134; Banks, Phil. Jo. Sci., I, 985; Theo., Monog. Culic., IV, 179; Ludl., Mosq. Phil Ids., 10; Theo., Monog. Culic., V, 156; Brun., R. I. M., I, 333; id., loc cit., IV, 449; id., loc. cit., XVII, 127. Stegomyia samarensis, Ludl., Psyche, XVIII, 126.

Stegomyia notoscripta var. samarensis Theo., Gen. Ins. fasc., XXVI, 19; id., Monog. Culic, V, 200; Brun., R. I. M., I, 336; id., loc. cit., IV, 452.

Culex crassipes, Wulp. Dipt. Mid. Sumat.Exp., 94, Pl. I, 4, (1892), [nec. Steg. crassipes, Theo., et auct.].

Stegomyia lamberti, Vent., B. Mus.,
 Paris, X, 552<sup>5</sup>, (1904); id., Arch.
 Paras., IX, 441; Theo., Monog. Culic.,
 V, 184<sup>6</sup>.

? Culex variegatus, Dol., Nat., Tijd. Ned. Ind., XVII, 777; Giles, Handbook, 282.

#### annandalei, Theobald.

Stegomyia annandalei, Theo., R. I. M., 1, 2, 3, 4, 5 Sukna. IV, 101, (1910); Brun., loc. cit., IV, 4442; id., loc. cit., XVII, 1305.

Kingia annandalei, Theo., Monog. Culic., V, 1393; Brun., R. I. M., IV, 4434.

#### annulirostris, Theobald.

S egomyia annulirostris, Theo., Bom. Jo., XVI, 239, (1905)<sup>1</sup>; id., Monog. Culic., IV, 173; Green, Trop. Agric., XXXVI, 234<sup>2</sup>; Brun., R. I. M., XVII, 129<sup>3</sup>.

Aedes annulirostris, James, I. J. Med. R., II, 262<sup>4</sup>.

1, 2, 3 Peradeniya.
4 Colombo.

#### argenteomaculata, Theobald.

Stegomyia argenteomaculata, Theo., Monog.Culic., IV, 184<sup>1</sup>, (1907); Brun., R. I. M., IV, 444<sup>2</sup>; id., loc. cit., XVII, 130<sup>3</sup>.

1, 2, 3 Narcondam Id.

## assamensis, Theobald.

Stegomyia assamensis, Theo., R. I. M., II, 290<sup>1</sup>, (1908); Brun., loc. cit., IV, .445<sup>2</sup>; Theo., Monog. Culic., V, 174<sup>3</sup>; Brun., R. I. M., XVII, 130<sup>4</sup>.

1, 2, 3, 4 Sylhet.
2, 3, 4 Travancore

#### desmotes, Giles,

Stegomyia desmotes, Giles, Jo. Trop.
Med., VII, 367<sup>1</sup>, (1904); Brun., R. I.
M., IV, 445; Theo., Monog. Culic., V,
185; Edw., B. Ent. R., IV, 225;
Brun., R. I. M., XVII, 128.

Stegomyia albipes, Theo., R. I. M., IV, II<sup>2</sup>, (1910), id., Monog. Culic., V, 169<sup>3</sup>. Stegomyia gracilis, Leic., Culic. Malaya, 81<sup>4</sup>, (1908); Brun., R. I. M., IV, 447.

<sup>2</sup>, <sup>3</sup> Travancore.

<sup>4</sup>F. M. S. <sup>1</sup>Philippines.

#### fasciata, Fabricius.

Culex fasciatus, F. Syst. Antl., 36, (1805); Wd., [nec. Müller], Dipt. Exot., 36, 39; id., Auss. Zweifl. Ins., I, 8; R. D., [nec. Müller], Mem. Soc. H. Nat. Paris, III, 408; Wlk., [nec. Müller], List. Dipt. B. M., I, 3; V. Röder, [nec. Müller], Stett. Ent. Zeit., XLVI, 338; Coq., [nec. Müller], U. S. Dpt. Agric. Circ., 40, (2nd ser.), 5, 6; How. [nec. Müller], loc. cit., Bull. 25, n. s. 1920; Giles, [nec. Müller], Handbook, 235; Reed, Carrol, Agrmnt. & Lazear, [nec. Müller, Phil. Med. Jo., VI, 792; Cropper [nec. Müller], Jo. Hyg., II, 51; O. S., Cat. Dipt. N. Amer., (2nd edn.), 19; Johnson, Proc. Acad. N. Sc., Phil., 271, 319; Kert., Cat. Dipt., I, 259, 256.

Stegomyia fasciata, Theo., Monog. Culic.,
I, 289, figs. 86, 89, 2925, [map of distribution], Pl. XIII, 49, 50, Pl. B;
id., Gen. Ins., fasc., XXVI, Pl. I, Pl. II; Giles, Handbook, (2nd edn.), 372,
Pl. XIV, 2, 3; Leic., Culic. Malaya,

Occurs throughout the Tropics and Sub-tropics.

85; Brun., R. I. M., I, 330; id., loc. cit., IV, 4463; id., loc. cit., XVII, 125-6; Reed & Carrol, Med. Rec., LX, 641; Theo., Jo. Trop. Med., IV, 159, (note); How., Mosquitos, 123, 127, 135, 155, 236; Garman, Bull. 96, Ky. Ag. Expt. Sta., 211; Durham, Liv. Sch. Trop. Med. Mem., VII, 15, 55; Nev. Lem., Arch. Paras., VI, 16; Blanch., C. R. Soc. Biol., Paris, LIV, 644; Dyé, Arch. Paras., VI, 365, 367; Theo., R. I. M., II, 2911; id., loc. cit., IV, 82. Theo., Proc. R. S., LXIX, 389; Goeldi, Os. Mosq. Para., IV, 129-197; Park, Beyr. & Path., Bull. XIII, Y. F. Inst., U. S. Health Service, 21; Tayl., Revist. Med. Trop., IV, 113; Theo., Monog. Culic., III, 141; Dyar, Jo. N. Y. Ent. Soc., XI, 23; id., Proc. Ent. Soc., Wash., V, 146, Pl. II, 12; Venin., "Bermuda", 335; Marlatt, Proc. Ent. Soc., Wash., V, 117; Carter, N. Y. Med. Rec., LXIV, 794; id., Boston. Med. and Surg. Jo., CL, 20; March., Simond., etc., Braz.-Med., XVII, 473; id., Ann. Inst. Past., XVII, 680; Guit., Rev. Med. Trop. Habana, IV, 60; Theo., Jo. Trop. Med., VI, 237; Laveran C. R. Soc. Biol., Paris, LV, 1157; How., Pub. Hlth. Rpts., XVIII, 46, (and revised edn.); Pazos, B. S. Ent. Fr., (1904), 135; Carter, Med. Rec., LXV, 761; Balf., 1st Rpt. Wellc. Lab., 16; Theo., loc. cit., 71; Bourroul, Mosq. Braz., 40; V. Dine, Bull. 6, Havana Exp. Sta., 14, 22; id., U. S. Dpt. Agric., Ann. Rpt. Exp. Stns., (1904), 377; Coffin in Shattock, "Bahamas", 280; Dyar, Jo. N. Y. Ent. Soc. XIII, 54; Theo. & Grabh., Mosq. Jamaica, 19; Felt., Bull. 97, N. Y. Mus., 489; Goeldi, C. R. VI. Cong.

Recorded Indian distribution:—

<sup>6</sup> Delhi.

<sup>4</sup> Ferozepore.

<sup>1</sup>, <sup>3</sup>, <sup>4</sup> Bhim Tal.

<sup>1</sup>, <sup>3</sup>, <sup>4</sup> Lucknow.

<sup>1</sup>, <sup>3</sup>, <sup>4</sup> Purneah.

<sup>9</sup> Siliguri.

<sup>1</sup>, <sup>3</sup>, <sup>4</sup> Lushai Hills.

<sup>2</sup>, <sup>3</sup> Mandalay.

2, 3 Rangoon.
2 Chittagong.
1, 2, 3 Calcutta.
2, 3 Puri.

Int. Zool., Berne, 193; Herrick, Ent. News, XVI, 282; Barks, Phil. Jo. Sci., I, 984; Theo., Sci. Progress, I, 70; id., Monog. Culic., IV, 176; Grün., Blutsaug. Dipt., 92; Becker, Mitt. Zool. Mus. Berl., IV, 81; Theo., Monog. Culic., V, 1584; Seidelin, Y. F. Bur. Bull., I, 365; Aust., loc. cit., II, 3; Edw., B. Ent. R., III, 9; Green. Trop. Agric., XXXVI, 23411; id., loc. cit., XXXVI, 226, (abstract); McGregor, T. Vet. Bull., III, 141, [note on rearing in Lond.]; Ann. Inst. Past., XX, 161-205, [abst. J. Trop. Vet. Sci., I, 348-350], [transmission of Y. F.]; Nuttall, Jo. Prev. Med., VIII, [abst. J. Trop. Vet. Sci., IV, 21], [Spirochæta duttoni]; Stanton, B. Ent. R., X, 333, [distribution in far East. ports]; James, I. J. Med. R., I, 213, 3 Pl., [Protection of India from Y. F.]; id., loc. cit., 258, Pl., [reduction in Indian ports]; Hodgson, loc. cit., II, 4156; James, loc. cit., II, 2627; Wesché, B. Ent. R., I, 25, fig. 1, [larva and pupa]; Knab, Science, I, 869, [abst. B. Ent. R., I, 156], [oviposition]; Boyce, B. Ent. R., I, 233, [prevalence, distribution, etc.]; Graham, loc. cit., II, 127, [control measures]; Balf., loc. cit., II, 179, [vector of horse-sickness & dengue]; Doane, loc. cit., IV, 265; McFie, loc. cit., IV, 339, [action of salt on larvæ]; Gough, loc. cit., V, 134; McFarl., loc. cit., VI, 67; McFie, loc. cit., VI, 205-229, [bionomics]; McGregor, loc. cit., VII, 81, 3 figs., [eggs]; McFie, loc. cit., VII, 277, [larval respiration]; id., loc. cit., VII, 297, [larva]; McGregor, loc. cit., X, 91, [occurrence in England]; McFie, loc. cit., X, 61, [pupal chætotaxy]; Barraud, loc. cit., X, 323;

<sup>2</sup>, <sup>3</sup> Coconada.

2, 3 Madras Town.

<sup>5</sup> Travancore.

10 Bombay.

7, 8, 11 Colombo.

11 Trincomali.

<sup>4</sup> Andamans.

Stanton, I. J. Med. R., III, 256; Patton & Cragg, T. B. Med. Ent., 216, Pl. XXXVI, 1, [bionomics]; Howlett, Proc. 3rd Meet. Mal. Com., (1912), 31, [crosses with albopicta]; Fry, Malaria in Bengal, 369; Bentley, Malaria in Bombay, 6210; Dalziel, B. Ent. R., XI, 251, 256, [larva in crab holes]; Waterst., loc. cit., IX, 7; Johnson, loc. cit., IX, 325-332, [notes in Nigeria]; Iyengar, I. J. Med. R., 1920 Sci., Cong. No., 9; Barraud, B. Ent. R., XI, 392; McFie, Ann. Trop. Med. XIV, 73-82, [temperature Paras., effects]; McGilchrist, I. J. Med. R., II, 322, [feeding on Paramæcium]; Enderl., Wien. Ent. Zeit., XXXVIII, 47; Balf., B. Ent. R., XII, 30, [in saline water]; Hill, Ann. Trop. Med. Paras., XV, 91-2, Pl., [unusual breeding places; Cleland, etc., Jo. Hyg. Camb., XVIII, 227-254, [abst. R. A. E., (B) IX, 127], [carries dengue]; Craig, Jo. Amer. Med. Ass., LXXV, 1171-6, [abst. R. A. E. (B) IX, 128] [carries dengue].

\*Inscules fasciatus, Herrera, Anal. Inst. Med. Nat., Mexico, XI, 235.

Stegomyia fasciata var. atritarsis, Edw., B. Ent. R., X, 129, (1920).

Stegomyia fasciata var. persistans, Banks, Phil. Jo. Sci., I, 996, 984, (1906); Theo., Monog. Culic., V, 159; Brun. R. I. M., I, 331; id., loc. cit., XVII 126; Trop. Agric., XXXVI, 32.

\*\* ? Culex ægypti, Linn., Hasselquist. Palestina Reise, 470, (1762).

Aedes (Stegomyia) ægypti, Dyar, Ins. Ins. Mens., VIII, 181, 204.

<sup>\*</sup> I can find no reference to the erection of this genus.

<sup>\*\*</sup> For another possible identification of this description see Ochlerotatus dorsalis, Mg

Culex albopal posus, Becker, Mitt. Zool. Mus. Berl., IV, 79, (1908).

Culex anguste-alatus, Becker, Mitt. Zool. Mus. Berl., IV, 79, (1908).

Culex annulitarsis, Mq., Dipt. Exot., Supp., I, 136, (1828); Giles, Handbook, 286.

? Culex argenteus, Poiret, Jo. de Physique, XXX, 245 (1787); How., Dyar. & Knab, Mosq., N. Amer., IV, 824, (note).

Culex bancroftii, Skuse, P. Linn. S., N. S. W., III, 1740, (1889); Giles, Handbook, 220.

Culex calopus, Mg. Syst. Besch., I, 3, (1818); R.-D., Essai Culicides, 406; Mq., in Webb. & Berth., N. H. Canaries, II, Ins., 99; id., Dipt., Exot., IV, Supp. 9, 313; V. Rod., Berl. Ent. Zeit., XXXI, 73; Fic., B. Ent. S. Ital., XXVIII, 251; Giles, Handbook, 237; Becker, Mitt. Zool. Mus. Berl., II, 67; Lucas, Expl. Sci. Alg., Zool., III, 415, 3.

Stegomyia calopus, Coq., U. S. Dpt. Agric. Ent. Ser., II, 17; Dyar, U. S. Dpt., Ent., Circ., 72, 5; Goldb., Bull. 16, Y. F. Inst., U. S. Pub. Hlth. Ser., 10; Blanch., Moustiques, 249, figs. 195-201; Ludl., Mosq. Phil. Ids., 33; Dyar, Proc. U. S. N. H. Mus., XXXII, 128; Knab, Jo. N. Y. Ent. Soc., XV, 13; How. in Osler's Mod. Med., I, 386; Antran., Anal. Dpt. Nac. Hig., XIV, 17; Viereck., 1st Rpt. Comn. Hlth., Para. 469; Peryassu, Culic. Braz., 44, 165; V. Logh., Gen. Tijd. Ent., XLVIII, 577; Busck., Smiths. Mis. Col. Quart., LII, 65; Pazos, Sanid. y. Benef., II, 48, 11; News. & Thom., Ann. Trop. Med. Paras., IV, 143;

Jennings, Jo. Econ. Ent., V, 132; Brinley, Science, n. s., XXXIII, 943.

Aedes calopus, How., Dyar. & Knab, Mosq. N. Amer., IV, 824; Dyar & Knab, Jo. N. Y. Ent. Soc., XIV, 190, 196; Thibault, P. Ent. Soc. Wash., XII, 19; Dyar & Knab, loc. cit., XII, 81; Fullaway, An. Rpt. Hawai Exp. Sta., (1912), 9.

Culex elegans, Fic., B. Soc. Ent. Ital., XXVIII, 251, (1889); Lioy, Dipt. Ital., 79; Grassi, Stud. Mal., (2nd edn.), 132.

Culex exagitans, Wlk., Ins. Saund. Dipt., pt. V, 430, (1856); Giles, Handbook, 230.

Culex excitans, Wlk., List Dipt. B. M., I, 4, (1848); Giles, Handbook, 244.

Culex formosus, Wlk., List. Dipt. B. M. I, 4, (1848); Giles, Handbook, 283.

Culex frater, R.-D., Mem. Soc. N. H., Paris, III, 408, (1827).

Cuiex impatabilis, Wlk., P. Linn. S. Lon., IV, 91, (1860); Giles, Handbook, 255.

Culex inexorabilis, Wlk., List Dipt. B. M., I, 4, (1848; Giles, Handbook, 264.

Culex konoupi, Brullé, Exped. Morea,
Zool., III, 289, Pl. XLVI, 1, (1832);
Fic., B. Ent. Soc. Ital., XXVIII, 256;
Giles, Handbook, 231.

Culex luciensis, Theo., Monog. Culic., I, 297, Pl. XIII, 50, (1901).

Stegomyia luciensis, Aiken, Br. Guiana Mus. Ann., (1906), 71.

Stegomyia fasciata var. luciensis, Theo., Monog. Culic., I, 297; James, I. J. Med. R., II, 2628.

Culex mosquito, R.-D. Essai Culicides, 407, (1827); Arrib., Rev. la Plata, 160; Guer. & P., Gen. des Ins., II livre, No. 9, Pl. II, fig. 1; Finlay, Anal. Acad. Cien. Habana, XVIII, 153; Will., T. Ent. S. Lon., 272; Giles, Handbook, 224.

Stegomyia fasciata var. mosquito, Theo., Monog. Culic., I, 295, (1901).

Stegomyia nigeria, Theo., Monog. Culic., I, 303, (1901); Giles, Handbook, (2nd edn.), 375; Blanch., Moustiques, 259; Theo., Monog. Culic., IV, 171; Grün., Blutsaug. Dipt., 95.

Culex queenslandensis, Theo., Monog. Culic., I, 297, (1901).

Stegomyia fasciata var. queenslandensis, Theo., Monog. Culic., I, 297.

Culex rossii, Giles, Jo. Trop. Med., 64, (1899).

Culex tæniatus, Wied., Auss. Zweifl. Ins., I, 10, (1828); Wlk., List Dipt. B. M., I, 5; Giles, Handbook, 216; id., Jo. Trop. Med., IV, 159; Grimsh., F. Hawai, III, 6; Ribas, Braz.-Med., XV, 412.

Culex toxorhynchus, Mq., Dipt. Exot., I, 25, (1838).

Culex variegatus, Theo., [ncc. Dol., nec.Schrank, nec. Blanch.], Monog. Culic.,V, 159, (1910), [note].

Culex viridifrons, Wlk., List Dipt. B. M., I, 3, (1848); Giles, Handbook, 232.

Culex zonatipes, Wlk., P. Linn. Soc. Lon., Zool., V, 229, (1861); Giles, Handbook, 287.

### mediopunctata, Theobald.

Stegomyia mediopunctata, Theo., Bom. Jo., XVI, 240, (1905)<sup>1</sup>; *id.*, Monog. Culic., IV, 187<sup>2</sup>; Green, Trop. Agric., XXXVI, 234<sup>3</sup>; Brun., R. I. M., IV, 447; *id.*, *loc. cit.*, XVII, 130<sup>4</sup>.

1, 2, 3, 4 Peradeniya.

### microptera, Giles.

Culex micropterus, Giles, Bom. Jo., XIII, 699, [provis. descr.]

Wyeomyia microptera, Giles in Theo., Monog. Culic., II, 281, 1, fig. 291, (1901).

Stegomyia microptera, Giles, Handbook, (2nd edn.), 380, Pl. XIV, 24-26; Theo., Monog. Culic., III, 147, [note]; Blanch, Moustiques, 263; Brun., R. I. M., I, 3322; id., loc. cit., IV, 447, [notes]; Theo., Monog. Culic., V, 607, [type lost]; Brun., R. I. M., XVII, 1276.

Ochlerotatus micropteron, James, I. J. Med. R., II, 2627.

### periskelata, Giles.

Stegomyia periskelata, Giles, Handbook, <sup>1</sup> Shahjahanpur. (2nd edn.), 371, Pl. XIV, 22, (1902); 2, 3, 5 Jhansi. Theo., Monog. Culic., III, 145; Blanch., Moustiques, 264; Brun., R. I. M., I, 3321; id., loc. cit., IV, 448; id., loc. cit., XVII, 128; Edw., B. Ent. R., XII, 77.

Ochlerotatus annulifemur, Edw., B. Ent. R., V, 77, (1914)<sup>3</sup>; Brun., R. I. M., XVII, 1415.

Stegomyia piperselata, Giles in Theo., Monog. Culic., II, 316, male only, (1901); id., Handbook, (2nd edn.), 372, Pl. XVI, 1a, b, [male only; name retained for female by Edwards]; Brun., R. I. M., I, 3322.

Ochlerotatus piperselatus, (p. p.), Edw., B. Ent. R., IV, 227 male only.

#### sugens, Wiedemann.

Culex sugens, Wd., Auss. Zweifl. Ins., I, 545, 41, (1828); Kert., Cat. Dipt., I, 2682.

<sup>1</sup> <sup>2</sup>, <sup>6</sup> Allahabad. 1, 2, 6 Lucknow. <sup>2</sup>, <sup>6</sup> Jhansi.

7 Colombo.

<sup>2</sup> Gonda.

9 Bombay.

8 Pusa. 5, 6, 10 Ceylon. Stegomyia sugens, Theo., Monog. Culic., I, 300³, Pl. XIII, 51, 1, fig. 92; Giles, Handbook, (2nd edn.), 375; James, I. J. Med. R. II, 2626 How., B. Ent. R., III, 214; Patton & Cragg, T. B. Med. Ent., Pl. XXXIV, 7, [egg], Pl. XXXV, 15, [larva]; Fletcher, Pusa Sci. Rpt., (1915-16), 838; Bentley, Malaria in Bombay, 629; Edw., B. Ent. R., III, 375, fig. 1, [larva]; Gough, loc. cit., V, 134; Sen, Pusa Sci. Rpt. (1919-20), 103, [feeding on Englena]; White, I. J. Med. R., VIII, 316¹0.

Scutomyia sugens, Theo., Monog. Culic., IV, 1994; id., loc. cit., V, 2015.

Culex vittatus, Big., A. S. Ent. Fr., (4), I, (1861); Fic., B. Ent. Soc. Ital., (1886), 257.

Stegomyia vittata, Edw., B. Ent. R., VII, 210.

4, 5 Aden.

3, 4, 5 Africa—general.

<sup>1</sup>, <sup>2</sup> Nubia.

# thomsoni, Theobald.

Stegomyia thomsoni, Theo., Gen. Ins. Fasc., XXVI, 18, (1905), [prelim. descrip.]; id., Monog. Culic., IV, 174, (1907); Edw., B. Ent. R., VII, 210, fig. 5d, [male genitalia]; Brun., R. I. M., IV, 450<sup>2</sup>; id., loc. cit., XVII, 129<sup>3</sup>; Howlett, Pusa. Sci. Rpt., (1911-12), 75<sup>4</sup>, [eggs].

1, 2, 3 N.-W. India.

3, 4 Pusa.

## trilineata, Leicester.

Hulecatomyia trilineata, Leic., in Theo., Entom., XXXVII, 163, (1904); Theo., Monog. Culic., IV, 220<sup>1</sup>; Leic., Culic. Malaya, 107; Brun., R. I. M., IV, 455<sup>6</sup>. Stegomyia trilineata, E. w., B. Ent. R., IV, 226; Brun., R. I. M., XVII, 129<sup>2</sup>;

White, I. J. Med. R., V. II, 3173.

Howardina chrysolineata, Theo., Monog. Culic., IV, 218, Pl. I, (1907)<sup>4</sup>; Brun., R. I. M., IV, 456<sup>5</sup>.

Coenoor (White).

2, 6 Kurseong.

2, 3, 4, 5 Ceylon (submontane).

Cherrapunji (White).

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1, 2, 6 F. M. S.

### tripunctata, Theobald.

Stegomyia tripunctata, Theo., R. I. M., II, 288<sup>1</sup>, (1908); id., loc. cit., IV, Pl. I, Pl. III; id., Monog. Culic., V, 182<sup>2</sup>, fig. 68; Brun., R. I. M., IV, 450<sup>3</sup>; id., loc. cit., XVII, 130<sup>4</sup>.

1, 2, 3, 4 Lushai Hills.

### w-alba, Theobald.

Stegomyia w-alba, Theo., Ann. Mus. Hung., III, 74, fig. 4 (1905)<sup>1</sup>; id., Monog. Culic., IV, 180, fig. 151; Brun., R. I. M., I, 335<sup>4</sup>; Edw., B. Ent., R., IV, 225; James, I. J. Med. R., II, 262<sup>5</sup>; McFarl., B. Ent. R., VI, 67<sup>6</sup>; Brun., R. I. M., IV, 450; id., loc. cit., XVII, 129<sup>7</sup>.

Stegomyia w-album, Fletcher, Pusa Sci. Rpt., (1916-17), 101<sup>8</sup>, [breeding place]. Stegomyia imitator, Leic., Culic. Malaya, 89<sup>2</sup>, (1908); Brun., R. I. M., IV, 447<sup>3</sup>.

Stegomyia minutissima, Theo., R. I. M., IV, 9, (1910); id., Monog. Culic., V, 168, fig. 61; Brun., R. I. M., IV, 448.

# <sup>1</sup>, <sup>4</sup>, <sup>7</sup> Matheran.

<sup>8</sup> Pusa.

<sup>7</sup> Sukna.

<sup>5</sup> Colombo.

<sup>2</sup>, <sup>3</sup>, <sup>7</sup> Kuala Lumpur.

Hongkong.

# 14. Ochlerotatus, Arribalzaga.

Ochlerotatus, Arrib., Rev. Mus. la Plata, II, 143, (1891) [Genotype, Culex albofasciatus, Mq.]; Edw., B. Ent. R., II, 246; id., loc. cit., VII, 203; Brun., R. I. M., X, 67; id., loc. cit., XVII, 133-135; Carter, Pr. Zool. Soc., (1920), 623-628, figs. 1-3, [notes on Asiatic spp.].

Acartomyia, Theo., Monog. Culic., III, 251, (1903) [Genotype, A. zammitii, Theo.].

Aedimorphus, Theo., Monog. Culic., III, 290, (1903) [Genotype, Uranotænia domestica, Theo.].

? Andersonia, Strickland, Entom., (1911), 250, (1911) [Genotype, A. tasmaniensis, Strick.]; Brun., R. I. M., X, 55

- Bathosomyia, Theo., Monog. Culic., V, 267, (1910) [Genotype, B. abnormalis, Theo.].
- ? Cacomyia, Coq., U. S. Bull., Tech. Ser., II, 16, (1906) [Genotype, Hamagogus albomaculatus, Theo.]; Brun., R. I. M., X, 56.
- Chrysoconops, Goeldi, Os. Mosq. Para, 114, (1905) [Genotype, Culex fulvus, Wd.]; Brun., R. I. M., X, 57; Theo., Monog. Culic., IV, 491; id., loc. cit., V, 433, [table of spp.]; Brun., R. I. M., IV, 480.
- Culicada, Felt, N. Y. Mus. Bull., 79, Ent. 22, App. 391b, (1904) [Genotype, Culex canadensis, Theo.]; Theo., Jo. Econ. Biol., I, 26; id., Monog. Culic., IV, 318 & p. 10; id., loc. cit., V, 294, [table of spp.]; Brun., R. I. M., IV, 461; id., loc. cit., X, 58.
- Culicelsa, Felt, N. Y. Mus. Bull., 79, Ent. 22, App. 391, (1904) [Genotype, Culex taniorhynchus, Wd.].
- Danielsia, Theo., Entom., XXXVII, 78, (1904); [Genotype, D. albotæniata, Leic.]; id., Gen. Ins. fasc., XXVI, 21; id., Monog. Culic., IV, 240; Leic., Culic. Malaya, 117.

Duttonia, News., Ann. Trop. Med. Paras., I, 17, (1907) [Genotype, D. tarsalis, News.].

- Ecculex, Felt., Jo. N. Y. Mus. Bull., 79, Ent. 22, App. 391c [Genotype, Culex sylvestris, Theo.].
- Finlaya, Theo., Monog. Culic., III, 281, (1903)
  [Genotype, F. poicilia, Theo.]; id.,
  loc. cit., IV, 520; id., Gen. Ins. fasc.,
  XXVI, 32; Blanch., Moustiques, 415,
  630; Brun., R. I. M., I, 360; id., loc.
  cit., IV, 485; id., loc. cit., X, 60.
- Geitonomyia, Leic., Culic. Malaya, 134, 1908 [Genotype, Culex cacus, Theo.].

? Gilesia, Theo., Monog. Culic., III, 233, (1903) [Genotype, G. aculeata, Theo.]; Brun., R. I. M., X, 60.

? Gualteria, Lutz in Bourroul, Mosq., Braz., 49, (?54), 1904; [Genotype, G. oswaldii, Ltz.]; Brun., R. I. M., X, 61; Theo., Gen. Ins. fasc., XXVI, 21; id., Monog. Culic., IV, 240; Leic., Culic.

Malaya, 117.

Howardina, Theo., Monog. Culic., III, 287, Pl. XV, (1903) [Genotype, Culex walkeri, Theo.]; Dyar, P. Ent. S. Wash., VII, 49; Theo., Monog. Culic., IV, 214; id., loc. cit., V, 200, [table of spp.]; id., Gen. Ins. fasc., XXVI, 21; Blanch., Moustiques, 415; Brun., R. I. M., I, 338; id., loc. cit., IV, 456; id., loc. cit., X, 62; id., loc. cit., XVII, 131.

Lepidoplatys, Coq., Science, XXIII, 314, (1906) [Genotype, Culex squamiger, Coq.]; Brun., R. I. M., X, 63.

Lepidotomyia, (I), Theo., Ann. Mus. Hung., III, 80, (1905) [Genotype, L. alboscutellata, Theo.]; Brun., R. I. M., X, 63; Theo., Monog. Culic., V, 249, (note) [sunk in Reedomyia].

Lepidotomyia, (II), Theo., Gen. Ins. fasc., XXVI, 22, (1905) [Genotype, L. magna, Theo.]; id., Monog. Culic., IV, 249; id., loc. cit., V, 249; Brun., R. I. M., IV, 458; id., loc. cit., X, 63.

Leslieomyia, Chris., Paludism, II, 68, (1911) [Genotype, L. tæniorhynchoides, Chris.].

Mimetoculex, Theo., 3rd Rpt. Wellc. Lab., 258, (1908) [Genotype, M. kingii, Theo.]; id., Monog. Culic., V, 408.

? Molpemyia, Theo., Monog. Culic., V, 479, (1910) [Genotype, M. purpurea, Theo.] Brun., R. I. M., X, 65.

Myxosquamus, Theo., Monog. Culic., V, 225, (1910) [Genotype, M. confusus, Theo.].

Neopecomyia, Theo., Monog. Culic., V, 261, (1910) [Genotype, N. uniannulata, Theo.].

Pecomyia, Theo., Jo. Econ. Biol., I, (1), 214, (1905) [Genotype, P. maculata, Theo.];

id., Monog. Culic., IV, 265.

Phagomyia, Theo., Gen. Ins. fasc., XXVI, 21, (1905) [Genotype, Steg. gubernatoris, Giles]; id., Monog. Culic., IV, 223; id., loc. cit., V, 224 [table of spp.]; Brun., R. I. M., I, 338; id., loc. cit., IV, 456; id., loc. cit., X, 68.

Polyleptiomyia, Theo., Gen. Ins. fasc., XXVI, 21, (1905) [Genotype, P. albocephala, Theo.]; id., Monog. Culic., IV, 223.

Protoculex, Felt, N. Y. Mus. Bull., 79, Ent. 22, App. 391d, (1904) [Genotype, Culex serratus, Theo.].

Protomacleaya, Theo., Monog. Culic., IV, 253, (1907) [Genotype, Culex triseria-

tus, Say.].

Pseudocarrollia, Brun., R. I. M., IV, 12, (1910) [Genotype, P. lophoventralis, Theo.]; id., Monog. Culic., V, 186; Brun., R. I. M., IV, 454; id., loc. cit., X, 69.

Pseudoculex, Dyar, P. Ent. S. Wash., VII, 45, (1905) [Genotype, Culex aurifer,

Coq.].

Pseudograbhamia, Theo., Bom. Jo., XVI, 243, (1905) [Genotype, P. maculata, Theo.]; id., Monog. Culic., IV, 314; Brun., R. I. M., IV, 460; id., loc. cit., X, 69.

Pseudohowardina, Theo., Monog. Culic., IV, 223, (1907) [Genotype, Culex trivittata, Coq.].

Pseudoskusea, Theo., Monog. Culic., IV, 192, (1907) [Genotype, Skusea multiplex, Theo.]; Brun., R. I. M., X, 69.

Reedomyia, Ludl., Can. Ent., XXXVII, 94, (1905) [Genotype, R. pampangensis, Ludl.]; Theo., Monog. Culic., IV, 257

[table of spp.]; id., loc. cit., V, 252; Brun., R. I. M., I, 362; id., loc. cit., IV, 486; id., loc. cit., X, 70.

? Stegoc nops, Lutz., Imprensa Med., (1906), [?nom. nud.]; Peryassu, Os. Culic. Braz., 34; (1908); Brun., R. I. M., X,

Stenoscutus, Theo., Monog. Culic., V, 263, (1910) [Genotype, S. africanus, Theo.].

# alboscutellatus, Theobald.

Lepidotomyia alboscutellata, Theo., Ann. Mus. Hung., III, 80, (1905)1; Leic., Culic. Malaya, 1322; Brun., R. I. M., I, 3393.

Reedomyia alboscutellata, Theo., Monog. Culic., IV, 261, fig. 80; Brun., R. I. M., IV, 4874; Theo., Monog. Culic., V, 2576, (alboscutella laps.).

Ochlerotatus alboscut ellatus, Brun., R.I. M., XVII, 1396.

Matale (Ceylon) (White).

<sup>2</sup>, <sup>4</sup>, <sup>5</sup> Kuala Lumpur. 1, 3, 4, 5, 6 Papua.

### albotæniatus, Leicester.

Danielsia albotæniata, Leic. in Theo., Entom., XXXVII, 1111, (1904); Theo., Monog. Culic., IV, 241, fig. 72; Brun., R. I. M., I, 3382; id., loc. cit., IV, 458; Leic., Culic. Malaya, 1173.

Ochlerotatus albotæniatus, Brun., R. I. M., XVII, 1394; White, I. J. Med. R., VIII, 3205.

<sup>5</sup> Matale, Ceylon.

1, 2, 3, 4 F. M. S.

### dorsalis, Meigen.

Culex dorsalis, Mg., Syst. Besch., IV, Peshawar (Pusa Coll.). 242, 18, 2, 31, (1818); id., loc. cit., VI, 242, 18, (1830); id., Abbild. Ent. Zweifl. Ins., I, Pl. II, 4; Ruthe, Isis, (1831), XI, 1204; Staeg., Kröj., Nat. Tidd., II, 554, 9; Wlk., List. Dipt. B. M., I, 3; Zett., Dipt. Scand., IX, 3465, 12; id., loc. cit., XI, 4344, 12; Sch., F. Aust., II, 626, 3; Wulp., Dipt.

<sup>1</sup> Europe.

<sup>2</sup>, <sup>3</sup>, <sup>4</sup>, <sup>5</sup> N. Africa.

Neerl., I, 325, 2; Siebke, Cat. Dipt. Norveg., 192, 7; Kow., Cat. Ins. Fam. Bohem., II, dipt., 5; Piff., E. M. M., (2) VI, (XXXI), 227; Aust., loc. cit., (2) VI, (XXXI), 228; Fic., B. Ent. S. Ital., XXVIII, 264, 14; Wulp. & Meij., New. Naaml. Nederl. Dipt., 23; Thal., F. Reg. Hung., Dipt., 15, 6; Kert., Cat. Dipt., I, 259; Theo., Monog. Culic., II, 16, Pl. XXI, 84.

Grabhamia dorsalis, Theo., Monog. Culic., III, 251; id., loc. cit., V, 277.

Ochlerotatus dorsalis, Edw., B. Ent. R., II, 248; id., loc. cit., VII, 217, fig. 6b, [larva]; Waterst., loc. cit., IX, 7, figs. 2, 3.

? \*Culex ægypti, Linn., Hassel quist. Palestina Reise, 470, (1762)².

Ochlerotatus ægypti, Gough, [nec. L.], B. Ent. R., V, 135<sup>3</sup>.

Grabhamia subtilis, Ed. & Et. Sergent, Bull. Mus. Paris, XI, 240, (1905)<sup>4</sup>; Theo., Monog. Culic., V, 278.

Grabhamia willcocksii, Theo., Monog. Culic., IV, 296, (1907); id., loc. cit., V, 278.

### greeni, Theobald.

Howardina greenii, Theo., Monog. Culic., III, 289<sup>1</sup>, figs. 160, 161, (1903); id., loc. cit., V, 221<sup>2</sup>; Brun., R. I. M., I, 338<sup>3</sup>; Blanch., Moustiques, 416; Brun., R. I. M., XVII, 131<sup>4</sup>.

Ochlerotatus greenii, James, I. J. Med. R. II, 262<sup>5</sup>; White, loc. cit., VIII, 319<sup>4</sup>.

# 1 2, 3, 4 Peradeniya.

<sup>5</sup> Colombo.

<sup>6</sup> Matale.

### gubernatoris, Giles.

Culex gubernatoris, Giles, Bom. Jo., XIII, 607, (1901), [provis. descr.]; id., Entom., XXXIV, 194; Theo., Monog. Culic., I, 314, fig. 97.

1, 6 Allahabad. 3, 4, 6, 10 Pusa. 6, 8, 9, 10 Purnea 5, 6, 11, 12 Bombay.

<sup>\*</sup> For another possible identification of this description see Stegomyia fasciata, F.

Stegomyia gubernatoris, Giles, Handbook, (2nd edn.), 380; Blanch., Mous- 7 Matale, tiques, 261; Bentley, Malaria in Bombay, 625; Fletcher, Pusa Sci. Rpt.,  $(1915-16), 83^4.$ 

Theo., Gen. Phagomyia gubernatoris, Ins. fasc., XXVI, 22; id., Monog. Culic., IV, 250; Brun., R. I. M., I, 338<sup>1</sup>.

Ochlerotatus gubernatoris, Edw., B. Ent. R., IV, 226; James, I. J. Med. R., II, 2622; Fletcher, Pusa Sci. Rpt., (1916-17), 101<sup>3</sup>, [breeding places]; Stanton, B. Ent. R., X, 333, [distribution in far East. ports]; Brun., R. I. M., XVII, 136-1376; White, I. J. Med. R., VIII,  $317^{7}$ .

 $Pseudocarrollia \cdot lophoventralis,$ Theo., R. I. M., IV, 138, (1910); id., Monog. Culic., V, 186; Brun., R. I. M., IV, 454<sup>9</sup>.

Ochlerotatus lophoventralis, Edw., B. Ent. R., VII, 214, [maintained as good sp.]; Brun., R. I. M., XVII,  $140-1^{10}$ .

Lepidotomyia (II) magna, Theo., Gen. Ins. Fasc., XXVI, 22<sup>11</sup>, (1905); id., Monog. Culic., IV, 250; id., loc. cit., V, 250<sup>12</sup>.

### imprimens, Walker.

Culex imprimens, Wlk., P. Linn. S. Lon., V, 1441, (1861); Giles, Handbook, 262; id., (2nd edn.), 411, [imprimiens, laps.]; Blanch., Moustiques, 306; Theo., Gen. Ins. Fasc., XXVI, 26, [imprimiens, laps.]; Brun., R. I. M., I, 3482.

Ochlerotatus imprimens, Edw., B. Ent. R., IV, 228; Brun., R. I. M., XVII, 136<sup>10</sup>.

? Culex auratus, Le c., Culic. Malaya, 1533, (1908); Brun., R. I. M., IV 467.

<sup>2</sup> Colombo.

<sup>6</sup> Philippines.

7, 8, 9, 10 Sukna. 1, 2, 10 Amboina. 3, 10 Malaya.

Culicada suknaensis, Theo., R. I. M., IV, 21<sup>7</sup>, (1910); id., Monog. Culic., V, 297<sup>8</sup>, fig. 139; Brun., R. I. M., IV, 462<sup>9</sup>.

### jamesi, Edwards.

Ochlerotatus jamesii, Edw., B. Ent. R., 1, 2, 3 Colombo. V, 771, (1914); James, I. J. Med. R., 3 Galle. II, 2622; Brun., R. I. M., XVII, 1413.

### lowisi, Theobald.

Reedomyia lowisii, Theo., Monog. Culic., <sup>1</sup>, <sup>2</sup> Andamans. V, 257<sup>1</sup>, figs. 121-124, (1910). <sup>1</sup>, <sup>2</sup> Galle. Ochlerotatus lowisii, Brun., R. I. M., XVII, 140<sup>2</sup>.

### mediolineatus, Theobald.

Culex mediolineatus, Theo., Monog. Culic., II, 113<sup>1</sup>, (1901); Giles, Handbook, (2nd edn.), 431; Blanch., Moustiques, 369.

Ochlerotatus mediolineatus, Edw., B. Ent. R., IV, 228; Brun., R. I. M., XVII, 137-8<sup>2</sup>.

Culex trilineatus, Theo., Monog. Culic., II, 105<sup>3</sup>, (1901); id., loc. cit., V, 359; Giles, Handbook, (2nd edn.), 464; Blanch., Moustiques, 330; Brun., R. I. M., IV, 476<sup>4</sup>.

#### nigripes, Zetterstedt.

Culex nigripes, Zett., Ins. Lapp., 807, 6, (1838); Staeg., Kröj. Nat. Tid., II, 553, 4; id., loc. cit., n. s., I, 349, 1; Zett., Dipt. Scand., IX, 3458, 5; id., loc. cit., XII, 4836, 5; Holmgr., K. Svensk. Vet. Akad. Handl., VIII, (5), 36; id., Ofr. K. Vet. Akad. Förhandl., XXIX, 104; O.-S., Cat. Dipt. N. Amer., (2nd edn.), 18; Fic., B. Ent. S. Ital., XXVIII, 291, 42; Lundb., Viden. Meddel., 296, 84; Jacob., Ins. Nov. Zemb., 31, 41, 49;

Theo., Monog. <sup>1</sup>, <sup>2</sup>, <sup>3</sup>, <sup>4</sup> Thayetmyo.); Giles, Hand- (U. Burma).

Kert., Cat. Dipt., I, 263<sup>3</sup>; Theo., Monog. Culic., II, 93, fig. 194, 260, [map of distribution]; Brun., R. I. M., I, 350<sup>1</sup>; id., loc. cit., XVII, 160<sup>2</sup>.

Ochlerotatus nigripes, Lund., Biol. Dan. Culic., 79, Pl. IX, [larva].

Culex caspius, Curt., [nec. Pallas], 2nd Voy. J. C. Ross, (App.)., LXXVI, 26, (1831).

? Culex impiger, Wlk., List. Dipt. B. M., I, 6, (1848).

? Culex implacabilis, Wlk., List. Dipt. B. M., I, 7, (1848).

Culex pipiens, Fb., [nec. L.], Faun. Groenld., 209, 171, (1780).

1, 2 Deosai Plateau (Kashmir, 13,000 ft.).

3 Circumpolar.

### niveoscutellatus, Theobald.

Reedomyia niveoscutellata, Theo., Jo. Econ. Biol., I, 22, Pl. III, 51, (1905); id., Monog. Culic., IV, 259, fig. 79; Brun., R. I. M., IV, 4872.

Ochlerotatus niveoscutellatus, Brun., R. I. M., XVII, 1393.

<sup>1</sup>, <sup>2</sup>, <sup>3</sup> India.

<sup>2</sup>, <sup>3</sup> Philippines.

### niveus, Ludlow.

Stegomyia nivea, Ludl., Jo. N. Y. Ent. S., XI, 139, (1903); Leic., Culic. Malaya,

Scutomyia nivea, Theo., Monog. Culic., V, 203; Brun., R. I. M., I, 3363; id., loc. cit., IV, 452.

Ochlerotatus niveus, Edw., B. Ent. R., 1, 3, 4 Philippines. IV, 227; id., loc. cit., VII, 211; Brun., R. I. M., XVII, 1394.

Aedes niveus, Edw., B. Ent. R., XII,  $318^{8}$ .

Stegomyia albolateralis, Theo., R. I. M., II, 289, (1908); id., Monog. Culic., IV, Pl. I, Pl. III; id., loc. cit., V, 179, fig. 67; Brun., R. I. M., IV, 444; id., loc. cit., XVII, 1409.

<sup>9</sup> Lushai Hills. 4, 5, 7 Andamans.

<sup>9</sup> Sylhet.

2, 3, 4, 5, 6, 7 F. M S.

<sup>8</sup> Japan.

Stegomyia pseudonivea, Theo., Ann. Mus. Hung., III, 75, (1903); id., Monog. Culic., V, 176<sup>5</sup>, fig. 64, 65; Brun., R. I. M., I, 332; id., loc. cit., IV, 448<sup>8</sup>.

### oreophilus, Edwards.

Ochlerotatus oreophilus, Edw., B. Ent. R., VI, 357<sup>1</sup>, (1916); Pusa Bull., 89, 58; Brun., R. I. M., XVII, 141<sup>2</sup>.

<sup>1</sup>, <sup>2</sup> Murree Hills.

### ostentatio, Leicester.

Aioretomyia ostentatio, Leic., Culic. Malaya, 1931, (1908); Brun., R. I. M., IV, 490.

Ochlerotatus ostentatio, Edw., B. Ent. R., IV, 228; Brun., R. I. M., XVII, 140<sup>2</sup>. Pseudohowardina chrysoscuta, Theo., Monog. Culic., V, 228, fig. 94<sup>3</sup>, (1910).

<sup>2</sup>, <sup>3</sup> Peradeniya.

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<sup>1</sup>, <sup>2</sup> F. M. S.

# pallidostriatus, Theobald.

Culex pallidostriatus, Theo., Monog.
 Culic., IV, 410<sup>1</sup>, fig. 175, (1907); id.,
 loc. cit., V, 362<sup>2</sup>.

Ochlerotatus pallidostriatus, Edw., B. Ent. R., IV, 228; Brun., R. I. M., XVII, 1403.

Ochlerotatus ochraceus, [p. p], Edw. [nec. Theo.], B. Ent. R., II, 250, (1911).

Culex parascelos, Theo., R. I. M., IV, 18, (1910)<sup>4</sup>; id., Monog. Culic., V, 379<sup>5</sup>; Brun., R. I. M., IV, 473<sup>6</sup>.

3, 4, 5, 6 Madras City 2, 3 Peradeniya 1, 2, 3 India.

### piperselatus, Giles.

Stegomyia piperseltta, Giles in Theo., Monog. Culic II, 316, (1901); id., Handbook, (2nd edn.), 372, [female only], Pl. XVI, 1a, b; Theo., Monog. Culic., V, 607<sup>1</sup>; Blanch., Moustiques, 264, [female only]; Brun., R. I. M., I, 332<sup>2</sup>; id., loc. cit., IV, 448.

Ochlerotatus piperselatus, Edw., B. Ent. R., IV, 227; James, I. J. Med. R., II, 262<sup>3</sup>; Brun., R. I. M., XVII,138<sup>4</sup>. 1, 2, 4 Jhansi.
1, 2, 4 Gonda.
7 Pusa.
4, 6 Madras City.
4, 5, Galgamuwa (Ceylon).
3 Colombo.

Pseudograbhamia maculata, Theo., Bom. Jo., XVI, 243<sup>5</sup>, (1905); *id.*, Monog. Culic., IV, 314, fig. 109; Brun., R. I. M., IV, 460<sup>6</sup>; Fletcher, Pusa Sci. Rpt., (1915-16), 83<sup>7</sup>.

### pseudotæniatus, Giles.

Stegomyia pseudotæniatus, Giles, Bom. Jo., XIII,606, (1901), [provis. descr.]; id., Entom., XXXIV, 192.

Stegomyia pseudotæniata, Giles, Handbook, (2nd edn.), 379, Pl. XIV, 8, 10; Theo., Monog. Culic. I, 312, fig. 96, [larva]; id., loc. cit., III, fig. 16, [larva]; Blanch., Moustiques, 261.

Hulecoetomyia pseudotæniata, Theo.,
R. I. M., II, 291; Brun., R. I. M., I,
337; id., loc. cit., IV, 455<sup>2</sup>; Theo.,
Monog. Culic., V, 222<sup>3</sup>, figs. 89-91.

Ochlerotatus pseudotæniatus, Prashad, I. J. Med. R., III, 500, Pl. XXX, fig. 3, [male genitalia]; id., loc. cit., III, 503, Pl. XXXI, [halteres].

Aedes pseudotæniatus, Brun., R. I. M., XVII, 1424.

1, 4 Bakloh.

<sup>2</sup>, <sup>3</sup>, <sup>4</sup> Dehra Dun.

<sup>1</sup>, <sup>4</sup> Naini Tal.

<sup>2</sup>, <sup>3</sup>, <sup>4</sup> Lushai Hills.

1, 3, 4 Philippines.

### pulchriventer, Giles.

Culex pulchriventer, Giles, Bom. Jo., XIII, 608¹, (1901) [provis. descr.]; id., Handbook, (2nd edn.), 449, Pl. XVII; Theo., Monog. Culic., II, 48, Pl. XXIII, figs. 92, 170, 173, [larva, etc.]; Blanch., Moustiques, 338; Brun., R. I. M., I, 351².

Ochlerotatus pulchriventer, Edw., B. Ent. R., IV, 228; Brun., R. I. M., XVII, 1373.

Howardina himalayana, Giles, Jo. Trop. Med., VII, 384, (1904); Brun., R. I. M., IV, 4564; Theo., Monog. Culic., V, 2215.

1, 2, 3, 4, 5 Naini Tal

tæniorhynchoides, Christophers.

Leslieomyia tæniorhynchoides Chris., <sup>1</sup>, <sup>2</sup> India. Paludism, II, 68, (1911).

Ochlerotatus tæniorhynchoides Edw., B. Ent. R., IV, 227; Brun., R. I. M., XVII, 141<sup>1</sup>.

Pecomyia maculata, Theo. [nec. Mg.], Jo.
Econ. Biol., I, 24<sup>1</sup>, Pl. IV, 7, (1905);
id., Monog. Culic., IV, 266, figs. 82-84

vexans, Meigen.

Culex vexans, Mg., Syst. Besch., VI, 2411, (1830).

Ochlerotatus vexans, Edw., B. Ent. R., VII, 218; Brun., R. I. M., XVII, 135-136<sup>2</sup> [notes on varieties].

Aedes (Ecculex) vexans, Dyar, Ins. Ins. Mens., VIII, 1833.

Culex articulatus, Rond., B. Ent. S. Ital., IV, 704, (1832).

Aedes enochrus, How., Dyar & Knab, Mosq. N. Amer., IV, 716<sup>5</sup>, (1907).

Culicada eruthrosops Theo., Monog Culic. V 299, fig. 140<sup>6</sup>, (1910).

Culex hirsutum, Ludl., Psyche, XVIII, 126, (1911)<sup>7</sup>; Theo., Monog. Culic. V, 344<sup>8</sup>.

Culicada minuta, Theo., Monog. Culic., IV, 338, (1907)<sup>9</sup>.

Culex montcalmi, Blanch., Moustiques, 407, (1905)<sup>11</sup>; Theo., Monog. Culic., V, 347, [sinks in sylvestris].

Culicada nipponii, Theo., Monog. Culic., IV, 337, (1907)<sup>10</sup>.

? Culex nocturnus, Theo., Monog. Culic., III, 159, (1903)<sup>12</sup>.

Culex pseudostenætrus, Theo., Monog. Culic., V, 343, fig. 154, (1910)<sup>15</sup>.

Culex stenætrus, Theo., Monog Culic., IV, 395, (1907)<sup>13</sup>.

<sup>2</sup>. <sup>9</sup> India.

2, 6, 13, 14, 15 Ceylon.

<sup>17</sup> Madras City

1, 4 Europe

<sup>5</sup>, <sup>11</sup>, <sup>16</sup> N. America.

12 Fiji.

<sup>8</sup> S. Africa.

3, 7 Philippines.

10 Japan.

17 China.

Ochlerotatus stenætrus, Edw., B. Ent. R., IV, 228; James, I. J. Med. R., II, 262<sup>14</sup>.

Culex sylvestris, Theo., Monog. Culic., I, 406, (1901)<sup>16</sup>.

Culex vagans, Theo., (nec Wied.), Monog. Culic., I, 411, (1901)<sup>17</sup>.

## 15. Theobaldia, Neveu-Lemaire.

Theobaldia, Nev.-Lem., C. R. Soc. Biol., Paris, LIV, 1331, (1902) [Genotype, Culex annulatus, Schrank.]; Theo., Monog. Culic., III, 148, Pl. X; id., loc. cit., V, 270, [table of spp.]; id., Gen. Ins. fasc., XXVI, 23; Edw., B. Ent. R., II, 251; Brun., R. I. M., I, 339; id., loc. cit., IV, 459; id., loc. cit., XVII, 169.

Quliceta, Felt, Jo. N. Y. Mus., Bull. 79; App. 391e, (1904) [Genotype, Culex absobnus, Ft.].

Pseudorheobatdia, Theo., Monog. Culic., IV, 271, (1907) [Genotype, P. niveitaniata, Theo.].

Theobaldinella, Blanch., Moustiques, -390, (1905), [nom. nov. for Theobaldia, supposed præocc.]; Brun., R. I. M., X, 72.

### annulata. Schrank.

Culex annulatus, Schrank, Beit. Naturg., 971, (1776); id., Ins. Aust., 984; Fb., Ent. Syst., IV, 400; id., Syst. Antl., 35; Mg. Syst. Besch., I, 4; id., Klass., 2; Mq., H. N. Dipt., I, 35; Sch., F. Aust., II, 626; O. S., Cat. Dipt. N. Am., 182; Wulp, Dipt. Neerl, 325; Theo., Monog. Culic., I, 331, fig. 108, Pl. XV, 58; Meinert, Euceph. Myggelarv., 376, Pl. I, 16, [larva]; Giles, Handbook, (2nd edn.), 391, Pl. XV; Blanch., Moustiques, 280, fig. 206,

4, 6 Bakloh (Punjab).

1, 6, 8, 13, 14 Europe.

<sup>2</sup>, <sup>7</sup> N. America.

3, 6, Mexico.

<sup>10</sup> Palestine.

<sup>9</sup> Mesopotamia.

Coq., Circ. No. 40; id., Bull., 25, 20, (note); How., Mosq., 80; Ludl., Jo. N. Y. Ent. S., X, 31; O.-S., Biol. Cent.

Amer., Dipt., I, 5<sup>5</sup>.

Theo., Monog. Theobaldia annulata, Culic., III, 148; id., Gen. Ins. fasc., XXVI, Pl. I, 12; Brun., R. I. M., I, 3394; id., loc. cit., IV, 459; id., loc. cit., XVII, 1696; Ald., Cat. N. Amer. Dipt., 1267; Waterst., B. Ent. R., IX 98; Barraud, loc. cit., X, 3239; id., loc. cit., XI, 395<sup>10</sup>; Edw., loc. cit., X, 137.

Culex affinis, Steph., Zool. Jo., IV, (1825)<sup>13</sup>; Staeg., Dipt. Dan., 554; Zett., Ins. Lapp., 806; id., Dipt. Scand., IX, 3460.

Culex variegatus, Schrank, Ennm. Ins. Aust., 48214, (1781).

# glaphyroptera, Schiner.

Culex glaphyropterus, Sch., F. Aust., II, 628<sup>1</sup>, (1864); Fig., B. Ent. S. Ital., XXVIII, 247, 4; id., loc. cit., XXXI, 192, 9, figs. 70, 71; Kert., Cat. Dipt., I, 260; Giles, Handbook, 216; Theo., Monog. Culic., I, 347, 1.

Theobaldia glaphyroptera, Theo., Monog. Culic., V, 2762; Edw., B. Ent. R., IV, 237; Brun., R. I. M.,

 $169-170^3$ .

Pseudotheobaldia niveitaniata, Theo., Monog. Culic., IV, 2722, figs. 87-88; Brun., R. I. M., IV, 478.

# 1, 2, 3 C. & W. Europe.

2, 3 Dehra Dun. <sup>2</sup>, <sup>3</sup> Theog.

<sup>1</sup> Bakloh.

<sup>1</sup> Ambala.

1 Dalhousie.

### indica, Edwards.

Theobaldia indica, Edw., B. Ent. R., X, 137, (1920)<sup>1</sup>.

### spathipalpis, Rondani.

Culex spathipalpis, Rond., B. Ent. S. 2, 3 Naini Tal. Ital., IV, 31, (1872); Theo., Monog.

Culic., I, 339; Giles, Handbook, (2nd edn.), 3923, Pl. XV, 23-25; Fic., B. Ent. S. Ital., XXI, 86; id., loc. cit., XXVIII, 242, Pl. II, 8, 9, Pl. III, 7, 12, Pl. IV, 18, 21, 22, Pl. V, 31, 34; id., loc. cit., XXXI, 94, figs. 72-75, 146; Blanch., Moustiques, 283, f. 209. Theobaldia spathipalpis, Theo., Monog. Culic., III, 154, Pl. X; id., loc. cit., IV, 276, [larva described]; id., loc. cit., V, 2731; Brun., R. I. M., I, 3402; id., loc. cit., IV, 459; id., loc. cit., XVII, 1704; Prashad, I. J. Med. R., III, 500, Pl. XXX, fig. 5, [male genitalia]; Pringault, B. S. Path. Exot., XIV, 163, [abst. R. A. E. (B) IX, 107]<sup>5</sup> [carrying Micrococcus melitensis]. Culex serratipes, Becker, Mitt. Zool. Mus. Berl., IV, 786, (1908).

1, 2, 4, 5 S. Europe.
1, 4, 6 Teneriffe.
1, 4 Madeira.
1, 2, 4 N. & S. Africa.
4 Palestine,

# 16. Orthopodomyia, Theobald.

Orthopodomyia, Theo., Entom., XXXVII, 236, (1904) [Genotype, O. albipes, Theo.]; id., Monog. Culic., IV, 527; id., loc. cit., V, 470, [table of spp.]; Leic., Culic. Malaya, 175; Brun., R. I. M., I, 362; id., loc. cit., IV, 486; id., loc. cit., X, 67; id., loc. cit., XVII, 176; Edw., B. Ent. R., IV, 239; How., Dyar & Knab, Mosq. N. Amer., IV, 778.

Bancroftia, Lutz in Borroul, Mosq. do Braz., 59, (1904) [Genotype, B. albicosta, Ltz.]; Theo., Monog. Culic., V, 469.

anopheloides, Giles.

Mansonia anopheloides, Giles, Jo. 3,10,11,12,13 Travancore. Trop. Med. VI, 3I5, (1903). 2, 4,10 Ceylon. Finlaya anopheloides, Brun., R. I. 10 Andamans. M., I. 361.

<sup>3</sup>, <sup>5</sup>, <sup>6</sup>, <sup>7</sup>, <sup>8</sup>, <sup>9</sup> F. M. S.

Orthopodomyia anopheloides, Edw., B. Ent. R., IV, 239<sup>2</sup>; James, I. J. Med. R., II, 263<sup>3</sup>; Brun., R. I. M., XVII, 176, 177<sup>3</sup>; White, I. J. Med. R., VIII, 317<sup>4</sup>.

Orthopodomyia albipes, Leic. in Theo., Entom., XXXVII, 237<sup>5</sup>, (1904); Theo., Monog. Culic., IV, 527; Leic., Culic. Malaya, 176; Brun., R. I. M., I, 362<sup>6</sup>; id., loc. cit., IV, 486; id., loc. cit., XVII, 177<sup>7</sup>.

Orthopodomyia albipes var. nigritarsis, Leic., Culic. Malaya, 177<sup>8</sup>, (1908); Brun., R. I. M., IV, 486<sup>9</sup>.

Orthopodomyia maculata, Theo., R. I. M.,
 IV, 29<sup>11</sup>, (1910); id., Monog. Culic.,
 V, 473<sup>12</sup>; Brun., R. I. M., IV, 486<sup>13</sup>.

Orthopodomyia maculipes, Theo., Monog. Culic., V, 470<sup>10</sup>, figs. 208-210, (1910); Brun., R. I. M., IV, 486.

# 17. Tæniorhynchus, Arribalzaga.

Teniorhynchus, Arrib., Rev. Mus. la Plata, II, 147, (1891) [Genotype, Culex titillans, Wlk., as teniorhynchus, Wd.]; How., Dyar & Knab, Mosq. N. Amer., III(1), 502, [regarding genotype]; Theo., Monog. Culic., II, 190, [restricted]; id., loc. cit., IV, 483; id., loc. cit., V, 419, [table of spp.]; id., Gen. Ins. fasc., XXVI, 30, [modified]; id., Nov. Culic., I, 18, [sinks Mansonia]; Giles, Handbook, (2nd edn.), 358; Blanch., Moustiques, 381, fig. 244; Leic., Culic. Malaya, 163; Edw., B. Ent. R., II, 251; Brun., R. I. M., I, 356; id., loc. cit., IV, 478; id., loc. cit., X, 72; id., loc. cit., XVII, 147-8; Patton & Cragg, T. B. Med. Ent., 214, [general account].

Coquilletidia, Dyar, P. Ent. S. Wash., VII, 47, (1905) [Genotype, Culex perturbans, Wlk.].

Mansonia, Blanch., C. R. Soc. Biol., Paris, LIII, 1046, [nom. nov. for Panoplites, prœocc.]; id., Moustiques, 375, 356, [table of spp.]; Theo., Gen. Ins. fasc., XXVI, 31; id., Monog. Culic., IV, 494; id., loc. cit., V, 446, [table of spp.]; Leic., Culic. Malaya, 171; Brun., R. I. M., I, 358; id., loc. cit., IV, 481; id., loc. cit., X, 64; Martin, Le Boeuf & Roub., B. S. Path. Exot., [abst. Jo. T. Vet. Sci., III, 484-6], [trans. of 'nagana' by this genus].

Panoplites, Theo., Rpt. Mosq. Coll. B. M., 5, (1900) [Genotype, Culex titillans, Wlk. as T. taniorhynchus, Wd.]; Giles, Handbook, (2nd edn.), 350.

Rhynchotænia, Brethes, Ann. Mus. Buen. Ayres, XX, 470, (1910) [Genotype, T. fasciolatus, Arrib.].

### brevicellulus, Theobald.

Tæniorhynchus brevicellulus, Theo., Monog. Culic., II, 212, figs. 255, 256, Pl. XXIII, 89, (1901); id., loc. cit., III, 268; Leic., Culic. Malaya, 163<sup>6</sup>; Brun., R. I: M., I, 357<sup>1</sup>; Edw., B. Ent. R., IV, 230; Brun., R. I. M., XVII<sup>2</sup>, 148-9; James, I. J. Med. R., II, 262<sup>3</sup>; Stanton, loc. cit., III, 257<sup>4</sup>.

Taniorhynchus brevicellula, Giles, Handbook, (2nd edn.), 363; Blanch., Moustiques, 389.

Chrysoconops brevicellulus, Theo., Monog. Culic., V, 438; Brun., R. I. M., IV, 481<sup>5</sup>.

Taniorhynchus acer, Theo., (nec. Wlk.), Monog. Culic, II, 21, (1901)<sup>7</sup>.

Chrysoconops fuscopteron, Theo., Tijd. v. Ent., LIV, 239, (1911)8.

5, 9, 10, 11 Sylhet.
 5 Manipur.
 2 U. Burma.
 5, 10, 11 Bengal
 3, 5 Ceylon.

<sup>1, 2, 6</sup> F. M. S.
2, 5 Philippines.
2, 4, 8 Sumatra.
7 Papua.

Chrysoconops pygmæus, Theo., R. I. M., IV, 300, (1908)<sup>9</sup>; id., Monog. Culic., IV, 25, Pl. I, Pl. III; id., loc. cit., V, 435<sup>10</sup>, figs. 192-195; Brun., R. I. M., IV, 481<sup>11</sup>.

### ochraceus, Theobald.

Tæniorhynchus ochraceus, Theo., Monog.
Culic., III, 263, fig. 140¹, (1903);
Leic., Culic. Malaya, 164²; Brun., R.
I. M., I, 358³.

Chrysoconops ochraceus, Theo., Monog. Culic., V, 435<sup>4</sup>; Brun., R. I. M., IV, 481.

Ochlerotatus ochraceus, (p. p.), Edw., B. Ent. R., II, 250; Brun., R. I. M., XVII, 138<sup>5</sup>, (p. p.).

### 18. Mansonioides, Theobald.

Mansonioides, Theo., Monog. Culic, IV, 498, (1907) [Genotype, M. 7-guttata, Theo.];
id., loc. cit., V, 452, [table of spp.];
Brun., R. I. M., IV, 483; id., loc. cit., X, 64; id., loc. cit., XVII, 149;
Edw., B. Ent. R., II, 253; Patton & Cragg, T. B. Med. Ent., 215.

### annulifera, Theobald.

Panoplites annulifera, Theo., Monog. Culic., II, 183, fig. 224, Pl. XXX, 120, (1901); Giles, Handbook, (2nd edn.), 356, Pl. XIII, 8.

Mansonia annulifera, Theo., Monog. Culic., III, 274; Blanch., Moustiques, 380; Leic., Culic. Malaya, 174; Brun., R. I. M., I, 359<sup>1</sup>; id., loc. cit., IV, 482; Green, Spol. Zeyl., IV, 183<sup>2</sup>.

Mansonioides annuliferus, Edw., B. Ent. R., IV, 230; James, I. J. Med. R., II, 262<sup>3</sup>; Stanton, loc. cit., III, 257; Iyengar, loc. cit., 1920 Sci., Cong. No., 9<sup>4</sup>; Stanton, B. Ent. R., X, 333, [distribution in far East. ports].

Cherrapunji (Mrs. Fletcher).

<sup>1</sup>, <sup>2</sup>, <sup>3</sup>, <sup>4</sup>, <sup>5</sup> Kuala Lumpur.

Sylhet.
 Manipur.
 <sup>1</sup>, <sup>4</sup>, <sup>5</sup> Bengal.
 <sup>1</sup>, <sup>5</sup> Madras
 <sup>1</sup>, <sup>5</sup>, <sup>7</sup> Malabar Coast
 <sup>1</sup>, <sup>2</sup>, <sup>3</sup>, <sup>5</sup> Ceylon.

<sup>1</sup>, <sup>5</sup> F. M. S. <sup>5</sup>, <sup>6</sup>, <sup>8</sup> Borneo. <sup>1</sup>, <sup>5</sup> Philippines. <sup>5</sup>, <sup>9</sup>, <sup>10</sup>, <sup>11</sup> Papua Mansonioides annulifera, Brun., R. I. M., XVII, 150<sup>5</sup>.

Mansonioides 7-guttata, Theo., Monog. Culic., IV, 499<sup>6</sup>, figs. 226, 227, (1907); Cruick. & Wright, I. J. Med. R., I, 773<sup>7</sup>; Brun., R. I. M., IV, 483<sup>8</sup>.

Mansonia 7-punctata, Theo., Ann. Mus. Hung., III, 1879, (1905); id., Monog. Culic., IV, 49410; Brun., R. I. M., I, 35911.

### annulipes, Walker.

Culex annulipes, Wlk., P. Linn. S. Lon., I, 6, (1857).

Panoplites annulipes, Theo., Monog. Culic., II, 185, Pl. XXX, 119.

Mansonia annulipes, Blanch., Moustiques, 380; Leic., Culic. Malaya, 172; Brun., R. I. M., I,359<sup>1</sup>; id., loc. cit., IV, 482; Theo., Monog. Culic., V, 447<sup>2</sup>.

Mansonioides annulipes, Stanton, I. J. Med. R., III, 2573; id., B. Ent. R., X, 333, [distribution in far East. ports]. Taniorhynchus annulipes, Brun., R. I.

Culex dives, Sch., Novara Reise, 316, (1868); Giles, Handbook, 261.

Culex nero, Dol., Nat. Tijd. Ned. Ind., XIV, 383<sup>5</sup>, Pl. V, 3, (1857); Giles, Handbook, 284.

uniformis, Theobald.

M., XVII, 1484.

Panoplites uniformis, Theo., Monog. Culic., II, 180, Pl. XXX, 118, (1901); Giles, Handbook, (2nd edn.), 353, Pl. XIII, a-d.

Mansonia uniformis, Theo., Monog. Culic., III, 270, fig. 144; Blanch., Moustiques, 379; Brun., R. I. M., I, 359<sup>2</sup>; id., loc. cit., IV, 483<sup>3</sup>; Leic., Culic. Malaya, 171; Green, Spol. Zeyl., IV, 183<sup>4</sup>; Bentley, Malaria in Bombay, 62<sup>5</sup>; Theo., Monog. Culic., V, 448<sup>6</sup>

<sup>4</sup> Calcutta. Assam (White).

<sup>1</sup>, <sup>2</sup>, <sup>4</sup> F. M. S. <sup>1</sup>, <sup>2</sup>, <sup>4</sup>, <sup>5</sup>, <sup>6</sup> Java <sup>3</sup> Sumatra. <sup>1</sup>, <sup>2</sup>, <sup>4</sup> Philippines.

<sup>3</sup>, <sup>6</sup> Manipur.

<sup>3</sup>, <sup>6</sup> Sylhet.

3, 6 Bengal

<sup>3</sup> Orissa.

1, 2 Shahjahanpur 2, 3, 6 Malabar Coast.

4, 6, 7 Ceylon.

<sup>3</sup> Rangoon.

<sup>5</sup> Bombay.

2, 3, 6 Philippines.

Mansonioides uniformis, James, I. J. Med. R., II, 2627; Simpson, B. Ent. R., II, 216; Edw., loc. cit., II, 254; id., loc. cit., IV, 51, fig. 1, [male genitalia]; McFarl., loc. cit., VI, 679; Stanton, loc. cit., X, 333, [distribution in far East. ports]; Edw., loc. cit., XI, 135; Heck. & Blanch., T. Vet. B., I, 287, [trypanosomes]; Johnson, B. Ent. R., IX, 325-332, [notes in Nigeria]; Stanton, I. J. Med. R., III, 257; Ingram, B. Ent. R., III, 75, fig. 1, [larva and pupa].

Panoplites africanus var. reversus, Theo., Monog. Culic., II, 189, (1901)<sup>11</sup>.

Panoplites australiensis, Giles, Handbook, (2nd edn.), 355, (1902)<sup>12</sup>.

? Panoplites seguini, Lav., C. R. Soc. Biol., Paris, LIII, 992 (1901)<sup>13</sup>.

? Mansonia seguini, Blanch., Moustiques, 380; Theo., Monog. Culic., IV, 496<sup>14</sup>.

# 19. Banksinella, Theobald.

Banksinella, Theo., Monog. Culic. IV, 468, (1907) [Genotype, Culex luteolateralis, Theo.]; Brun., R. I. M., IV, 477, [Banksiella, laps.]; id., loc. cit., X, 56; Theo., Monog. Culic., V, 402, [table of spp.].

### luteolateralis, Theobald.

Culex luteolateralis, Theo., Monog. Culic, II, 71<sup>2</sup>, Pl. XXVII, 108, (1901); Giles, Handbook, (2nd edn.), 448; Blanch., Moustiques, 278; Leic., Culic. Malaya, 160<sup>4</sup>; Brun., R. I. M., I, 349<sup>1</sup>.

Banksinella luteolateralis, Theo., Monog. Culic. IV, 469; Brun., R. I. M., IV, 4773, [Banksiella, laps.]; Edw., B. Ent. R., II, 245; id., loc. cit., III, 6;

<sup>3</sup> Sumatra.

<sup>2</sup> Papua.

9 Hongkong.

<sup>6</sup> Madagascar.

3, 6, 11 Africa

generally 3, 6 F. M. S.

3, 6, 12 Australia.

13, 14 Tonkin.

3, 6 Sylhet.
5 Colombo.

1, 3, 4, 6 F. M. S.
1, 6, 7 Philippines.
1, 2, 6 Africa
generally.

id., loc. cit., V, 274, [? lineatopennis, a good sp.]; James, I. J. Med. R., II, 263<sup>5</sup>; Brun., R. I. M., XVII, 124<sup>6</sup>.

Taniorhynchus lineatopennis, Ludl., Can. Ent., XXXVII, 133<sup>7</sup>; (1905); Theo., Monog. Culic., IV, 489; Brun., R. I. M., IV, 479.

Banksinella lineatopennis, Stanton, B. Ent. R., X, 333, [distribution in far East. ports].

### 20. Culiciomyia, Theobald.

Culiciomyia, Theo., Monog. Culic., IV 227, (1907) [Genotype, Culex inornata, Theo.]; id., loc. cit., V, 229, [table of spp.]; Brun., R. I. M., IV, 456; id., loc. ci., X, 58; Edw., B. Ent. R., IV, 234; Brun., R. I. M., XVII, 151.

Neomelanoconion, Theo., Monog. Culic., IV, 514, (1907) [male only] [Genotype, Culex rima, Theo.]; Edw., B. Ent. R., II, 254.

Pectinopalpus, Theo., A. M. N. H. (8), V, 375, (1910) [Genotype, P. fuscus, Theo.].

Trichorhynchus, Theo., Bom. Jo., XVI, 241, (1905) [Genotype, T. fuscus, Theo.]; id., Monog. Culic., IV, 270; Brun., R. I. M., I, 356; id., loc. cit., X, 73.

Trichorhynchomyia, Brun., R. I. M., IV, 477, (1912) [nom. nov. for Trichorhynchus, prœocc.]; id., loc. cit., X, 73.

### bahri, Edwards.

Culiciomyia bahri, Edw., B. Ent. R., V, 79<sup>1</sup>, (1914); Brun., R. I. M., XVII, 152<sup>2</sup>.

1, 2 Badulla.

<sup>1</sup>, <sup>2</sup> Hakgalla.

<sup>1</sup>, <sup>2</sup> Peradeniya.

### fragilis, Ludlow.

Culex fragilis, Ludl., Jo. N. Y. Ent. S., 4, 5, 6, 7, 8 Ceylon (gene-XI, 142, (1903); Theo., Monog. Culic., ral).

IV, 424; Brun., R. I. M., I, 345<sup>1</sup>; id., loc. cit., IV, 469<sup>2</sup>; id., loc. cit., XVII, 164<sup>3</sup>.

\*Culiciomyia fragilis, Edw., B. Ent. R., V, 79, [note].

Culiciomyia ceylonica, Theo., Monog. Culic., IV, 236, fig. 70, (1907); Brun., R. I. M., IV, 4574; James, I. J. Med. R., II, 2625; Brun., R. I. M., XVII, 1526.

Trichorhynchus fuscus, Theo, Bom. Jo., XVI, 242, Pl. A, 2, (1905); id., Monog. Culic., IV, 270; Edw., B. Ent. R., III, 33; id, loc. cit., IV, 235; Brun., R. I. M., I, 356.

Trichorhynchomyia fuscus, Brun., R. I. M., IV, 477.

Culiciomyia fusca, Edw., B. Ent. R., IV, 235; Brun., R. I. M, XVII, 152; White, I. J. Med. R., VIII, 3188.

Culiciomyia inornata, Theo., Monog.
 Culic., IV, 227, figs. 61-63, (1907);
 Brun., R. I. M., IV, 4579.

pallidithorax. Theobald.

Culex pallidithorax, Theo., Jo. Econ. Biol., I, 32, (1905); Brun., R. I. M., I, 3501.

Culex pallidothorax, Theo., Monog. Culic., IV, 446, [emend.]; Brun, R. I. M., IV, 473.

Culiciomyia pallidothorax, Edw., B. Ent. R., IV, 235; James, I. J. Med. R., II, 262<sup>3</sup>; McFarl., B. Ent. R., VI, 67<sup>4</sup>; Brun., R. I. M., XVII, 151<sup>5</sup>; White, I. J. Med. R., VIII, 318<sup>6</sup>.

Culex albopleura, Theo., Monog. Culic., IV, 456, (1907); Brun., R. I. M., IV, 4667.

\*Culiciomyia annuloabdominalis, Theo., Monog. Culic., V, 2368, figs. 102, 103, (1910).

<sup>9</sup> Sarawak. <sup>1</sup>, <sup>3</sup>, <sup>3</sup> Philippines.

1, 5, 7 India.
3,5,6, 8 Ceylon (general)

<sup>4</sup> Hongkong.

### pulla, Theobald.

Culex pullus, Theo., Ann. Mus. Hung., III, 87<sup>1</sup>, fig. 6, (1905); Brun., R. I. M., I, 351<sup>2</sup>.

Culiciomyia pulla, Theo., Monog. Culic., IV, 2323, fig. 66; Brun., R. I. M., IV, 457; James, I. J. Med. R., II, 2624; Brun., R. I. M., XVII, 1525.

### <sup>4</sup> Colombo.

1, 2, 3, 5 Papua.

### viridiventer, Giles.

Culex viridiventer, Giles, Bom. Jo., XIII, 609, (1901)<sup>1</sup> [provis. desc.]; Theo., Monog. Culic., II, 128, figs. 219, 220, Pl. XXXIX, 116; Giles, Handbook, (2nd edn.), 345, Pl. XVII, 12; Blanch., Moustiques, 346; Brun., R. I. M., I, 354<sup>2</sup>.

Culiciomyia viridiventer, Edw., B. Ent. R., IV, 235; Brun., R. I. M., XVII, 151<sup>3</sup>; White, I. J. Med. R., VIII, 319<sup>4</sup>.

Culex angulata, Theo., Monog. Culic., II, 324, (1901); Brun., R. I. M., I, 342<sup>5</sup>.

Culex angulatus, Blanch., Moustiques, 362; Brun., R. I. M., IV, 466.

Culex longifurcatus, Theo., [nec Becker], R. I. M., IV, 196, (1910).

Culex pseudolongifurcatus, Theo., Monog. Culic., V, 366,  $(1910)^7$ , [nom. nov.]; Brun., R. I. M., IV, 474.

### 21. Lophoceratomyia, Theobald.

Lophoceratomyia, Theo., Ann. Mus. Hung., III, 93, (1905) [Genotype, L. fraudatrix, Theo.]; id., Bom. Jo., XVI, 245; id., Monog. Culic., IV, 471; Leic., Culic. Malaya, 119; Brun., R. I. M., X, 64; Edw., B. Ent. R., VII, 226, [key to genus]; Brun., R. I. M., XVII, 152; Edw., B. Ent. R., XII, 79.

Cyathomyia, Meij., Ann. Bot. Jard. Buitenzg, 2), Supp. III, 921, (1910) [Genotype, 1, 2, 3, 5 Naini Tal. 3, 6, 7 Nepal.

<sup>4</sup> Matale, Ceylon

Culex jenseni, Meij.]; Edw., B. Ent. R., IV, 59; Brun., R. I. M., XVII, 168.

Oculeomyia (p. p.), Theo., Monog. Culic, IV, 515, (1907) [Genotype, O. sarawaki, Theo.].

Philodendromyia, Theo., Monog. Culic, IV, 515, (1907) [Genotype, P. barkerii, Theo.].

#### mammilifer, Leicester.

Lophoceratomyia mammilifer, Leic., Culic. Malaya, 128<sup>1</sup>, (1908); Brun., R. I. M., IV, 464; Edw., B. Ent. R., IV, 236; Brun., R. I. M., XVII, 154<sup>2</sup>; White, I. J. Med. R., VIII, 317<sup>3</sup>.

Lophoceratomyia bicornuta, Theo., R. I. M., IV, 25<sup>4</sup>, (1910); id., Monog. Culic., V, 412<sup>5</sup>, figs. 178-182; Brun., R. I. M., IV, 463<sup>6</sup>.

<sup>2</sup>, <sup>4</sup>, <sup>5</sup>, <sup>6</sup> Kawkareik (L. Burma).

<sup>3</sup> Matale (Ceylon).

1, 2 F. M. S.

# minutissima, Theobald.

Culiciomyia minutissima, Theo., Monog. Culic., IV, 235, (1907); Brun., R. I. M., IV, 457<sup>2</sup>.

Lophoceratomyia minutissima, Edw., B. Ent. R., IV, 235; James, I. J. Med. R., II, 262<sup>3</sup>; Edw., B. Ent. R., V, 80, (note); McFarl., B. Ent. R., VI, 67<sup>4</sup>; Brun., R. I. M., XVII, 153<sup>5</sup>; White, I. J. Med. R., VIII, 317<sup>6</sup>.

Melanoconion juxtapallidiceps, Theo., Monog. Culic., V, 456, (1910); Brun., R. I. M., IV, 4848.

Culiciomyia nigerrima, Theo., Monog.
 Culic., V, 233, fig. 100, (1910); Brun.
 R. I. M., IV, 457<sup>10</sup>.

# tæniata, Leicester.

Lophoceratomyia tæniata, Leic., Culic.
 Malaya, 127, (1908)¹; Brun., R I. M.,
 IV, 465²; James, I. J. Med. R., II,
 262³; Brun., R. I. M., XVII, 154⁴.

1, 2, 3, 5, 6, 7, 8, 9, 10 Ceylon (general).

4 Hongkong.

<sup>2</sup> Colombo

1, 2, 4 F. M. S.

### uniformis, Theobald.

Lophoceratomyia uniformis, Theo., Ann. Mus. Hung., III, 93<sup>1</sup>, Pl. A, Pl. B, (1905); id., Bom. Jo., XVI, 245; id., Monog. Culic., IV, 473; Edw., B. Ent. R., V, 80; id., loc. cit., VII, 227; James, I. J. Med. R., II, 262<sup>3</sup>; Brun., R. I. M., XVII, 153<sup>4</sup>; White, I. J. Med. R., VIII, 317<sup>5</sup>.

1, 2, 3, 4, 5 Ceylon (general).

### 22 Protomelanoconion, Theobald.

Protomelanoconion, Theo., Monog. Culic., V, 462, (1910) [Genotype, P. fusca, Theo.]; Brun., R. I. M., X, 69; Edw., B. Ent. R., XII, 79

### brevipalpis, Giles.

Stegomyia brevipalpis, Giles, Handbook, (2nd edn.), 384<sup>1</sup>, Pl. XIV, 17-20, (1902); Blanch., Moustiques, 264; Brun., R. I. M., I, 329<sup>2</sup>; id., loc. cit., IV, 445.

Culex brevipalpis, Theo., Monog. Culic., III, 146; id., loc. cit., V, 607.

Cyathomyia brevipalpis, Edw., B. Ent. R., IV, 237; James, I. J. Med. R., II, 262<sup>3</sup>; Stanton, B. Ent. R., X, 333<sup>7</sup>, [distribution in far East. ports]; Fletcher, Pusa Sci. Rpt., (1916-17), 101<sup>4</sup>, [bionomics]; Brun., R. I. M., XVII, 168-9<sup>5</sup>; White, I. J. Med. R., VIII, 317<sup>6</sup>.

Protomelanoconion brevipalpis, Edw., B. Ent. R., XII, 79.

Melanoconion uniformis, Leic., Culic. Malaya, 1368; Brun., R. I. M., IV, 484.

# 1, 2, 5 Shahjahanpur.

### 23. Culex, Linnaeus.

Culex, L., Syst. Nat. Ed., X, 602, (1758) [Genotype, Culex pipiens, L.]; Mg.,

<sup>&</sup>lt;sup>4</sup> Pusa.

<sup>&</sup>lt;sup>3</sup> Colombo.

<sup>&</sup>lt;sup>6</sup> Matale (Ceylon).

<sup>7</sup> Siam.

<sup>7</sup> Cochin China.

<sup>&</sup>lt;sup>8</sup> F. M. S.

Illig. Mag., II, 260; id., Syst. Besch., I, 1; R.-D., Mem. S. H. Nat., Paris, III, 403; Zett., Dipt. Scand., IX, 3453; Sch., F. Aust., II, 625; Meinert, Eucephale Mygelarver, in Vidensk. Selsk., 6 R., Nat. og Math., Afd., III, (4), 1886, 375, [literature of transformations, etc.]; Giles, Handbook, 186; id., loc. cit., (2nd edn.), 386; Theo., Monog. Culic., I, 326; id., loc. cit., IV, 487; id., loc. cit., V, 323, [table of spp.]; id., Gen. Ins. fasc., XXVI, 24, 25, [list of spp. of World]; Blanch., Moustiques, 267, 269, [table of spp.], 627, [suppy. table], 372, [list of uncertain spp.]; Leic., Culic. Malaya, 138, [table of groups]; Brun., R. I. M., I, 342; id., loc. cit., IV, 465; id., loc. cit., X, 39, 42, 43; id., loc. cit., XVII, 155-157; Alcock, Ent. Med. Off., 98; How., Dyar & Knab, Mosq. N. Amer., III, (1), 215, 217; Edw., B. Ent. R., V, 63, [male hypopygium descr.]; Patton & Cragg, T. B. Med. Ent., Pl. XX, 1, [respiratory system], Pl. XXII, 7, [œsophagus], Pl. XXIX, 2, [ovarian tube] Pl. XXIII, [alimentary tract], Pl. XXXVIII, 3, [male genitalia] p. 214, [general account].

Aedinus, Lutz in Peryassu, Os. Culic. Braz., 36, (1908) [Genotype, A. amazonensis, Ltz.].

Aporoculex, Theo., Monog. Culic., IV, 316, (1907) [Genotype, A. punctipes, Theo.].

Climacura, How., Dyar & Knab, Mosq. N. Amer., III, 452, (1905) [Genotype, Culex melanurus, Coq.].

Culicella, Felt, N. Y. Mus. Bull., 79, Ent., 22, App. 391c, (1904) [Genotype, Culex dyari, Coq.]; id., How., Dyar & Knab, Mosq. N. Amer., III, 457 Diceromyia, Theo., IV Rpt. Wellc. Lab., B, 151, (1911) [Genotype, D. africana, Theo.].

Eumelanomyia, Theo., Monog. Culic., V, 240, (1910) [Genotype, E. inconspicua, Theo.].

Gnophodeomyia, Theo., Jo. Econ. Biol., I, (1), 21, (1905) [Genotype, G. inornata, Theo.].

Gnophodromyia, Theo., Monog. Culic., V, 114, (1910) [nom. nud., ? misprint for Gnophodeomyia].

Heptaphlebomyia, Theo., Monog. Culic., III, 336, (1903) [Genotype, H. simplex, Theo.]; id., loc. cit., IV, 531; id., loc. cit., V, 481; id., Gen. Ins. fasc., XXVI, 41; id., Entom., XXX, 156.

Jamesia, Chris., Sci. Mem. Med. Off. Ind., n. s., XXV, 12, (1906) [Genotype, Culex concolor, R.-D., erected on larval characters only]; Brun., R. I. M., X, 62.

Lasiconops, Theo., Monog. Culic., III, 235, (1903) [Genotype, L. poicilipes, Theo.].

Leucomyia, Theo., Monog. Culic., IV, 372, Pl. IX, (1907) [Genotype, Culex gelidus, Theo.]; id., loc. cit., V, 311, [table of spp.].

Lutzia, Theo., Monog. Culic., III, 155, (1903) [Genotype, Culex bigotii, Bell.].

Maillotia, Theo., Monog. Culic., IV, 274, (1907) [Genotype, M. pilifera, Theo.]

Melanoconion, Theo., Monog. Culic., III, 238, (1903) [Genotype, Culex atratus, Theo.]; id., loc. cit., IV, 507; id., loc. cit., V, 455, [table of spp.]; id., Gen. Ins. fasc., XXVI, 32; Herrick., Ent. News, 382; Leic., Culic. Malaya, 136; Brun., R. I. M., I, 360; id., loc. cit., IV, 484; id., loc. cit., X, 65; Dyar, P. Ent. S., Wash., VII, 49 [genotype].

Melanoconium, Blanch., Moustiques, 395 [emended name].

Melanoconops, Theo., Monog. Culic., III, 178, (1903) [nom. nud.].

Microculex, Theo., Monog. Culic., IV, 461, (1907) [Genotype, M. argentioumbrosus, Theo.].

Mimeteomyia, Theo., Monog. Culic., V, 210, (1910) [Genotype, M. apicotriangulata, Theo.].

Mochlostyrax, Dyar & Knab, Jo. N. Y. Ent. S., XIV, 223, (1906) [Genotype, M. caudelli, D. & K.].

Neoculex, Dyar, P. Ent. Soc. Wash., VII, 47, (1905) [Genotype, Culex territans, Wlk.].

Neomelanoconion, Theo., Monog. Culic., IV, 514, (1907) [female only] [Genotype, N. rima, Theo.]; News., Dutt. & Todd, Ann. Trop. Med. Paras., I, 31; Brun., R. I. M., X, 66.

Pneumaculex, Theo., Monog. Culic, IV, 523, (1907) [Genotype, Culex signifer, Coq.]; Dyar, P. Ent. S. Wash., VII, (1), [nom. nud.]; Brun., R. I. M., X, 68.

Popea, Ludl., Can. Ent., XXXVII, 95, (1905) [Genotype, P. lutea, Ludl.]; Theo., Monog. Culic., IV, 211; Brun., R. I. M., IV, 485; id., loc. cit., X, 69.

Pseudoheptaphlebomyia, Vent., B. Mus., Paris, XI, 427, [nom. nud.; Genotype, P. madagascarensis, Vent.].

Rachisoura, Theo., Monog. Culic., V, 207, (1910) [Genotype, R. sylvestris, Theo.].

Theobaldiomyia, Brun., R. I. M., IV, 462, (1912) [nom. nov. for Leucomyia, prœocc.].

Thomascina, News. & Cart., Ann. Trop. Med.
Paras., IV, 553, fig. 1, (1910-11)
[Genotype, Mansonia longipalpis,
N. & C.].

Tinolestes, Coq., P. Ent. S. Wash., VII, 185, (1906) [Genotype, T. lutisquama, Coq.].

Trichopronomyia, Theo., Ann. Mus. Hung., III, 98, (1905) [Genotype, T. annulata, Theo.]; id., Monog. Culic., IV, 479; Brun., R. I. M., I, 356; id., loc. cit., IV, 477; id., loc. cit., X, 73.

### bitæniorhynchus, Giles.

Culex bitæniorhynchus, Giles, Bom. Jo., XIII, 607¹, (1901) [prov. descr.]; id., Entom., XXXIV, 196; Edw., B. Ent. R., IV, 231; James, I. J. Med. R., II, 262²; Stanton, loc. cit., III, 257³; McFarl., B. Ent. R.,VI, 67⁴; Stanton, loc. cit., X, 333, [distribution in far East. ports]; White, I. J. Med. R., VIII, 317⁵.

Grabhamia bitæniorhynchus, Brun., R. I. M., XVII, 1326.

? Culicelsa abdominalis, Tayl., Rpt. Aust. Inst. Trop. Med., 1911, 53, (1913).

Taniorhynchus ager, Giles in Theo., Monog. Culic., II, 199, fig. 248, (1901); id., Handbook, (2nd edn.), 365; Blanch., Moustiques, 385; Leic., Culic. Malaya, 168; Brun., R. I. M., I, 357<sup>7</sup>; id., loc. cit., IV, 478<sup>8</sup>; Green, Spol. Zeyl., IV, 182<sup>9</sup>.

Grabhamia ambiguus, Theo., Monog. Culic., III, 248, (1903); Brun., R. I. M., I, 341<sup>10</sup>; id., loc. cit., IV, 461, [ambigua].

Teniorhynchus domesticus, Leic.,
 Culic. Malaya, 169<sup>11</sup>, (1908); Brun.,
 R. I. M., IV, 479<sup>12</sup>; Edw., B. Ent. R.,
 X, 134.

Culex infula, Theo., Monog. Culic., I, 370, (1901); Blanch., Moustiques, 298; Leic., Culic. Malaya, 146; Brun., R. I. M., I, 348<sup>13</sup>; Giles, Handbook, (2nd edn.), 407 [infulus].

1, 6, 7 Shahjahanpur.

Pusa.

6, 8 Bengal. 6, 8, 18 Sylhet.

6, 8, 18 Puri.
6 Mandalay.

6, 18 Manipur.
6, 7 Madras.

6, 7, 8, 10 Travancore. 2, 5, 6, 7, 9, 16, 19 Ceylon.

6, 11, 12, 17, 18 F. M. S.

3, 6, 13 Sumatra.

6, 14, 15, 20 Borneo.

<sup>6</sup>, <sup>8</sup> Philippines.<sup>4</sup> Hongkong.

17, 20 China.

17, S. & W. Africa.

Oculeomyia sarawakii, Theo., Monog. Culic., IV, 515<sup>14</sup>, fig. 236, 237, Pl. VI, (1907); Brun., R. I. M., IV, 485<sup>15</sup>.

Grabhamia tæniarostris, Theo., Monog.
 Culic., IV, 299, (1907); Brun., R. I.
 M., IV, 461<sup>16</sup>.

Tæniorhynchus tenax, Theo., Monog. Culic., II, 198, Pl. XVII, 65, (1901); id., loc. cit., III, 259, fig. 236; Giles, Handbook, (2nd edn.), 365; Blanch., Moustiques, 386; Leic., Culic. Malaya, 167; Brun., R. I. M., I, 358<sup>17</sup>; id., loc. cit., IV, 480<sup>18</sup>; Fletcher, Pusa Sci. Rpt., (1915-16), 83.

? Taniorhynchus tenax, Green, Spol. Zeyl., IV, 182<sup>19</sup>.

Twniorhynchus tenax var. ocellata, Theo., Monog. Culic., IV, 488, (1907); Brun., R. I. M., IV, 480<sup>20</sup>; Theo., Monog. Culic., III, 259.

concolor, Robineau-Desvoidy.

Culex concolor, R.-D., Mem. Soc. H. Nat., Paris, IV, 405, (1825); Theo., Monog. Culic., II, 107, fig. 203, Pl. XXXVIII, 109, 110; Giles, Jo. Trop. Med., VII, 368; id., Handbook, (2nd edn.), 454, Pl. XVII, 8a, b; Blanch., Moustiques, 365; Leic., Culic. Malaya, 154; Brun., R. I. M., I, 3431; id., loc. cit., IV, 4682; id., loc. cit., XVII, 157; James, I. J. Med. R., II, 2627; Stanton, B. Ent. R., X, 333, [distribution in far East. ports]; Patton & Cragg, T. B. Med. Ent., Pl. XVIII, 6, [clasper], Pl. XXXIV, 3, [larva]; Fletcher, Pusa Sci. Rpt., (1916-17), 1014, [bionomics]; Bentley, Malaria in Bombay, 625; Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 96.

<sup>2</sup> Manipur

1, <sup>2</sup> U. P.

1, <sup>4</sup> Bihar

1, <sup>2</sup>, <sup>6</sup> Bengal.

1, <sup>2</sup>, <sup>3</sup> Sylhet.

<sup>1</sup> Orissa.

<sup>6</sup> Bombay.

1, <sup>2</sup> Malabar Coast.

<sup>1</sup> Madras.

1, <sup>2</sup>, <sup>3</sup> Burma.

<sup>2</sup> Andamans.

<sup>7</sup> Ceylon.

————

1, <sup>2</sup>, <sup>3</sup> Siam.

1, <sup>2</sup>, <sup>3</sup> Malaysia.

(general).

<sup>1</sup>, <sup>3</sup> Philippines.

1, 2, 3 China.

epidesmus, Theobald.

Tæniorhynchus epidesmus, Theo., R. I.
 M., IV, 22¹, (1910); id., Monog. Culic.,
 V, 429²; Brun., R. I. M., IV, 479³.

1, 2, 3 Bhogaon 4, 5, 6 Katihar 7 India.

Culex epidesmus, Edw., B. Ent. R., IV, 231.

Grabhamia epidesmus, Brun., R. I. M., XVII, 133.

Taniorhynchus luteoabdominalis, Theo., R. I. M., IV, 23<sup>4</sup>; id., Monog. Culic., V, 423<sup>5</sup>; Brun., R. I. M., IV, 479<sup>6</sup>.

Grabhamia ochracea, Theo., Jo. Econ. Biol., I, 25, (1905); id., Monog. Culic., IV, 300; Brun., R. I. M., I, 3417.

fatigans, Wiedemann.

Culex fatigans, Wd., Auss. Zweifl. Ins., I, 10, 17<sup>1</sup>, (1828); Big., Cat. Orient. Dipt., 251; Wulp., Cat. Dipt. S. Asia, 33; Kert., Cat. Dipt., I, 259; Giles, Handbook, 298; id., loc. cit., (2nd edn.), 438, fig. 45, 440, [list of subspp.]; Theo., Monog. Culic. II, 151, fig: 234-236, Pl. XXIX, 114, 115, Pl. D, 155, [map of distribution], fig. 238; id., Gen. Ins. fasc., XXVI, Pl. II, 2; id., Monog. Culic., IV, Pl. XVI [larva]; Blanch., Moustiques, 353, fig. 230, [as pungens], 231-234; Leic., Culic. Malaya, 157; Brun., R. I. M. I., 341; id., loc. cit., IV, 468; id., loc. XVII, 158-9; Trop. Agric., XXXVI, 32, [in abstract]; Green, Spol. Zeyl., IV, 183; Chris., Rpt. King Inst., 1907, [abst. J. T. Vet. Sci., IV, 228, [flagellates]; Gill, I. J. Med. R., II, 268, [minimum biting temp.]; Cruick. & Wright, loc. cit., I, 773, 784; James, loc. cit., II, 262; Prashad, loc. cit., II, 500, Pl. XXIX, 2, [male genitalia]; Edw., B. Ent. R., IV, 55,

Circumterrestrial in Warmer Regions.
Universally distributed in Oriental Region.

fig. 4, [genitalia]; Doane, loc. cit., IV, 265; McFie, loc. cit., VII, 277, [ larval respiration]; McFie & Ingram, loc. cit., VII, 73, [pupa]; Barraud, loc. cit., X, 323; Stanton, B. Ent. R., X, 334; Patton & Cragg, T. B. Med. Ent., Pl. II, 4, [male antenna], Pl. XIV, 1, [exoskeleton], Pl. XXVII, 7, [salivary gland], Pl. XXXIV, 59, [egg], Pl. XXXVI, 2, [imago], Pl. XXXV, 16, [larva]; Fletcher, Pusa Sci. Rpt., (1915-16), 83; McDonald, B. Ent. R. VII, 259, [in latrines]; Edw., B. Ent. R., XI, 137; Dalziel, loc. cit., XI, 253, [in crab holes]; Johns., loc. cit., IX, 325-332, [Nigerian notes]; Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 9; Barraud, B. Ent. R., XI, 394, [does not occur in Egypt]; Gill, R. S. Trop. Med. Hyg., XIV, 77, [transmission expts.]; Stanton, I. J. Med. R., III, 257; Gough, B. Ent. R., V, 135; Lough, Jo. R. A. M. C., XXXVI, 137; White, I. J. Med. R., VIII, 320; Gill, loc. cit., VIII, 666, [transmission expts.]; Chris., Sci. Mem. Med. Off. Ind., XLVI, 118-125, Proteosoma transmission]; Cleland, etc., Jo. Hyg. Camb. XVIII, 217-254, [abst. R. A. E. (B), IX, 127], [not a dengue vector] Craig, Jo. Amer. Med. Ass., LXXV, 1171-6 [abst. R. A. E. (B) IX, 128] [not proved guiltless in dengue].

Culex aestuans, Wd., Auss. Zweifl. Ins., I, 11, (1828).

Culex anxifer, Coquerel in Big., A. S. Ent, Fr., (1858), VII, 117, (1859).

Culex cartroni, Vent., B. Mus., Paris, XI, 429, (1905)<sup>2</sup>.

Culex christophersi, Theo., Monog. Culic., IV, 4533, (1907); Brun., R. I. M., IV, 467.

Type localities.

<sup>1</sup> Ind. Or.

<sup>2</sup> Madagascar.

<sup>3</sup> India.

4 rgentina.

<sup>5</sup> China.

<sup>6</sup> S. Africa.

<sup>7</sup> Calcutta.

8 Japan.

Sambalpur, C. P.

<sup>10</sup> N. America.

11, 12 Hongkong.

\*Heteronycha delosa, Arrib., Dipt. Argent., 564, (1891).

Culex foochowensis, Theo., Monog. Culic., II, 137, figs. 224, 225, (1901)<sup>5</sup>; Brun., R. I. M., I, 345; Blanch., Moustiques, 344, [fouchowensis].

Culex goughii, Theo., S. Af. Ag. Dpt., 1st Vety. Rpt., 26, 86, (1911) [male only].

Culex osakensis, Theo., Monog. Culic., IV, 4538, (1907).

Culex pallipes, Mg., Syst. Besch., VII, 1, (1838).

Culex panalectoros, Giles, Bom. Jo., XIII, 6087, (1901).

Armigeres panalectoros, Giles, Handbook, (2nd edn.), 386.

Desvoidya panalectoros, Blanch., Moustiques, 266.

Desvoidea panalectoros, Theo., R. I. M., IV, 5, [sinks].

Blanchardiomyia panalectoros, Brun., R. I. M., IV, 442.

Culex quasipipiens, Theo., Monog. Culic., II, 1369, fig. 223, (1901); Giles, Handbook, (2nd edn.), 438; Blanch., Moustiques, 344; Brun., R. I. M., I, 351.

Culex quinquefasciatus, Dyar & Knab, [? nec Say], P. Ent. Soc., Wash., XI, 34<sup>10</sup>, (1909); How., Dyar & Knab, Mosq. N. Amer., III, 345; Dyar, Ins. Mens., IX, 32 [males swarming round man].

Culex reesii, Theo., Monog. Culic., II,
 145, fig. 232<sup>11</sup>, (1901); Giles, Handbook, (2nd edn.), 449; Blanch., Moustiques, 361; Brun., R. I. M., I, 351.

Culex sericeus, Theo., Monog. Culic., II, 147, fig. 223, (1901) 12; Giles, Hand-

<sup>\*</sup>I can find no reference to the erection of this genus.

book, (2nd edn.), 452; Blanch., Moustiques, 362; Brun., R. I. M., I, 352; id., loc. cit., IV, 475. Culex skusii, Giles, Handbook, 292, (1900).

## fatigans var. luteoannulatus, Theobald.

Culex fatigans var. luteoannulatus, Theo., Monog. Culic., II, 159, (1901); Brun., R. I. M., XVII, 159.

? Culex pungens, Wd., Auss. Zweifl. Ins., I, 9, (1828).

? Culex macleayi, Skuse, P. Linn. S. N.S. W., (1896), 1745, (1896).

### fuscanus, Wiedemann.

Culex fuscanus, Wd., Dipt. Exot., I, 9, 8, (1821)<sup>1</sup>; id., Avss. Zweifl. Ins., I, 10; R.-D., Mem. S. H. Nat. Paris, III, 404, 6; Wlk., List Dipt. B. M., I, 9; id.<sup>2</sup>, P. Linn. S. Lon., I, 5, 3 & 105, 6<sup>3</sup>; Big., Cat. Orient. Dipt., 251; Wulp., Cat. Dipt. S. Asia, 33<sup>4</sup>; Kert., Cat. Dipt., I, 260; Giles, Handbook, 301; id., loc. cit., (2nd edn.), 455; Theo., Monog. Culic., II, 167; id., Gen. Ins., Fasc. XXVI, 30; Blanch., Moustiques, 275; Brun., R. I. M., I, 345; id., l.c. cit., XVII, 158.

[Apparently not recognized as Indian since Walker, (1848).]

1, 4 Ind. Or.

2, 4 Hindustan.

3, 4 Malacca.

<sup>3</sup>, <sup>4</sup> Borneo.

#### fuscocephalus, Theobald.

IV, 471.

Culex fuscocephalus, Theo., Monog. Culic, IV, 420, (1937); Brun., R. I. M., IV, 469<sup>1</sup>; Edw., B. Ent. R., IV, 234; id., loc. cit., VII, 225; Brun., R. I. M., XVII, 166<sup>2</sup>; Stanton, B. Ent. R., X, 333, [distribution in far East. ports]. Culex luteola, Theo., Monog. Culic., V,

3783, fig. 172, (1910); Brun., R. I. M.,

2, 4 Lushai Hills.
2, 4 Sylhet.

<sup>2</sup>, <sup>4</sup> Calcutta.

1, 2 Travancore.

1, 2, 3 Ceylon.

Culex minor, Theo., R. I. M., II, 2984, (1908); id., loc. cit., IV, Pl. I; id., Monog. Culic., V, 363, fig. 150; Brun., R. I. M., IV, 473.

Culex taytayensis, Banks, Phil. Jo. Sci., IV, 545<sup>5</sup>, (1910); Brun., R. I. M., IV, 475.

Culex uniformis, Leic., Culic. Malaya, 1596, (1908); Brun., R. I. M., IV, 476.

2, 6 Malaysia.

<sup>2</sup>, <sup>5</sup> Philippines.

### gelidus, Theobald.

Culex gelidus, Theo., Monog. Culic., II, 20, Pl. XXXIV, 93, fig. 158, (1901); Giles, Handbook, (2nd edn.), 421; Blanch., Moustiques, 316; Brun., R. I. M., I, 346<sup>1</sup>; id., loc. cit., XVII, 163<sup>2</sup>; James, I. J. Med. R., II, 262<sup>3</sup>; Stanton, B. Ent. R., X, 333<sup>3</sup>, [distribution in far East. ports]; Howlett, Pusa Sci. Rpt. (1914-15), 76<sup>4</sup>, [breeding places]; Fletcher, loc. cit., (1915-16), 83<sup>5</sup>; Fry, Malaria in Bengal, 36<sup>6</sup>; White, I. J. Med. R., VI I, 318<sup>7</sup>.

Leucomyia gelida, Theo., Monog. Culic., IV, 372; Leic., Culic. Malaya, 1479; Iyengar, I. J. Med. R., 1920 Sci. Cong. No., 98.

Theobaldiomyia gelida, Brun., R. I. M., IV, 462.

<sup>2</sup> Rangoon.

1, 2, 6, 8 Bengal.

<sup>4</sup>, <sup>5</sup> Pusa.

<sup>2</sup> Madras City.

<sup>2</sup> Malabar Coast.

1, 2, 3, 7 Ceylon.

1, 2, 9 F. M. S.

<sup>2</sup> Borneo.

<sup>1</sup>, <sup>2</sup> Philippines.

#### gelidus var. bipunctatus. Theobald.

Leucomyia gelida var. bipunctata, Theo., Monog. Culic., IV, 374<sup>1</sup>, (1907); Cruick. & Wright, I. J. Med. R., I, 773<sup>2</sup>.

Culex gelidus var. bipunctatus, Brun., R. I. M., XVII, 1633.

# 1, India.

<sup>2</sup> Cochin.

1, 3 Sarawak.

# gelidus var. cuneatus, Theobald.

Culex gelidus var. cuneatus, Theo., Monog. Culic., II, 22, fig. 159, (1901);

<sup>2</sup> Sylhet.

1, 2 Bengal.

2 Puri

Giles, Jo. Trop. Med., VII, 368; Brun., R. I. M., I, 346<sup>1</sup>; *id.*, *loc. cit.*, XVII, 163<sup>2</sup>.

<sup>2</sup> Madras.

1, 2 Travancore.

1, 2 Ceylon.

1, 2 F. M. S.

<sup>1</sup>, <sup>2</sup> Philippines.

<sup>5</sup> Matale, Ceylon.

1, 2, 3, 6 F. M. S.

<sup>4</sup> Sumatra.

### halifaxi, Theobald.

Culex halifaxi, Theo., Monog. Culic., III, 231, (1903); id., loc. cit., V, 390<sup>1</sup>; Brun., R. I. M., IV, 470<sup>2</sup>; id., loc. cit., XVII, 164<sup>3</sup>; Edw., B. Ent. R., IV, 234; Stanton, I. J. Med. R., III 258<sup>4</sup>; id., B. Ent. R., X, 333, [distribution in far East. ports]; White, I. J. Med. R., VIII, 318<sup>5</sup>.

Culex multimaculosus, Leic., Culic. Malaya, 155<sup>6</sup>, (1908); Brun., R. I. M., IV, 473.

## japonicus var. ceylonicus, Theobald.

Culex japonicus var. ceylonica, Theo., Monog. Culic., V, 391<sup>1</sup>, (1910).

Culex japonicus var. ceylonicus, Brun., R. I. M., IV, 471 <sup>3</sup>; id., loc. cit., XVII, 167<sup>4</sup>.

Culex japonicus, Brun., R. I. M. I 348 [partim.]<sup>2</sup>.

# mimeticus, Noë.

Culex mimeticus, Noë, B. S. Ent. Ital., XXXI, 240<sup>1</sup>, (1899); Giles, Handbook, 202; id., loc. cit., (2nd edn.), 389, Pl. XV, 16-18; Theo., Monog. Culic., I, 329, Pl. XVI, 63; Blanch., Moustiques, 271; Leic., Culic. Malaya, 139<sup>2</sup>; Brun., R. I. M., I, 349<sup>3</sup>; id., loc. cit., IV, 472<sup>4</sup>; id., loc. cit., XVII, 161<sup>5</sup>; Fletcher, Pusa Bull. 89, 58; James, I. J. Med. R., II, 262<sup>6</sup>; Edw., B. Ent. R., VI., 359<sup>7</sup>; Waterst., loc, cit., IX, 9<sup>8</sup>; Barraud., loc, cit., XI, 395<sup>9</sup>; McFarl., loc., cit., VI, 67<sup>10</sup>.

1, 2, 3, 4 Peradeniya.

3, 4, 5 Theog.

3, 5 Punjab, 6,000'.

4, 5 Nepal.

4, 5 Lushai Hills.

3, 5, 7 Nilgiris.

4, 5, 6 Ceylon.

3, 5 Kanara District.

1, 5, 8 S. Europe.

<sup>5</sup> Cyprus.

11, Caspian Sea.

<sup>11</sup>, Caspian Sea.

<sup>5</sup>, <sup>9</sup> Patestine.

2, 3, 5, F. M. S.

\*? Culex hyrcanus, Pallas, Reise Russ. Reich. 11, (1771).

[Many of these references probably refer to C. mimulus, Edw. True mimeticus in the Orient seems confined to the hills.]

### mimulus, Edwards.

Culex mimulus, Edw., B. Ent. R., V, 284<sup>1</sup>, (1915); Brun., R. I. M., XVII, 167<sup>2</sup>; White, I. J. Med. R., VIII, 318<sup>3</sup>.

<sup>2</sup> India. <sup>2</sup>, <sup>3</sup> Ceylon.

<sup>2</sup> Malaysia. <sup>1</sup> Sarawak.

5, 6 F. M. S.

#### nilgiricus, Edwards.

Culex nilgiricus, Edw., B. Ent. R., VI, 358, fig. 11, (1916); Brun., R. I. M., XVII, 1672; Fletcher, Pusa Bull. 89, 58.

1, 2 Utakamund (Nilgiris)

## sinensis, Theobald.

Culex gelidus var. sinensis, Theo., Monog. 2, 3, 4, 5 Puri Culic., III, 180<sup>1</sup>, (1903).

Leucomyia sinensis, id., R. I. M., IV, 20<sup>2</sup>, (1910); id., Monog. Culic., V, <sup>1</sup>, <sup>3</sup>, <sup>5</sup> China.

Theobaldiomyia sinensis, Brun., R. I. M., IV, 4634.

Culex sinensis, Edw., B. Ent. R., IV, 231; Brun., R. I. M., XVII, 1645.

Culex sepositus, Leic., Culic. Malaya, 152, (1908); Brun., R. I. M., IV, 4756.

Taniorhynchus tenax, Leic., (nec. Theo.), Culic. Malaya, 167, (1908).

#### sitiens, Wiedemann.

Culex sitiens, Wd., Auss. Zweifl. Ins., I, 542<sup>1</sup>, (1828); Wulp., Cat. Dipt. S. Asia, 33<sup>2</sup>; Cruick. & Wright, I. J. Med. R., I, 773<sup>3</sup>; James, loc. cit., II, 262<sup>4</sup>; Edw., B. Ent. R., IV, 232; McFarl.,

<sup>8</sup> Punjab.

<sup>8</sup> United Provinces. <sup>9</sup> Bihar.

8, 10, 14 Bengal 6, 10 Sylhet.

<sup>\*</sup> For another possible identification of this description see Anopheles sinensis, Wd.

loc. cit., VI, 67<sup>5</sup>; Stanton, loc. cit., X, 333, [distribution in far East. ports]; Edw., loc. cit., XI, 137; Balf., loc. cit., XII, 129, [in saline water]; Brun., R. I. M., XVII, 159-160<sup>6</sup>; Fletcher, Pusa Sci. Rpt., (1915-16), 83<sup>9</sup>.

Culex annulirostris, Skuse, Proc. Linn.S. N. S. W., (2) III, 1737, (1889).

Culex gnophodes, Theo., Monog. Culic.,
 III, 163, (1903); Leic., Culic. Malaya,
 145; Brun., R. I. M., I, 3477.

Culex impellens, Wlk., (nec Theo.), P.
 Linn S. Lon., IV, 91, (1860)<sup>12</sup>; Wulp.,
 Cat. Dipt. S. Asia, 34<sup>13</sup>; Iyengar, I. J.
 Med. R., 1920 Sci. Cong. No., 9<sup>14</sup>.

Culex microannulatus, Theo., Monog.
 Culic, I, 353, Pl. XVIII, 69, fig. 118,
 b, d, (1901); Blanch., Moustiques, 292;
 Leic., Culic. Malaya, 140; Brun., R.
 I. M., I, 3498; id., loc. cit., IV, 47210.

Taniorhynchus microannulatus, Neave, B. Ent. R., III, 313<sup>11</sup>.

Culex ronaldi, Charm., Ann. Trop. Med., II, 259, (1908)<sup>15</sup>.

Culex salus, Theo., III Rpt. Wellc. Lab., 256, (1909)<sup>16</sup>.

Culex somaliensis, Nev.-Lem., Arch. Paras., X, 254, (1906)<sup>17</sup>.

8 Madras.

3, 8 Malabar Coast.

4, 6, 8 Ceylon.

10 Orissa.

6, 7, 8, 10 F. M. S. 1, 2 Sumatra.

12, 13 Celebes.

<sup>6</sup>, <sup>8</sup> Philippines. <sup>5</sup> Hongkong.

6, 10, 15 Mauritius.

11, 16, 17 E. Africa.

tigripes, Grandpré and Charmoy.

Culex tigripes, Grand. & Charm., Planters' Gaz. Press, (1900); Giles, Handbook, (2nd edn.), 407, Pl. XVI, 11; id., Jo. Trop. Med., VII, 368; Theo., Monog. Culic., III, figs. 120-122, [early stages]; Edw., B. Ent. R., II, 261; Brun., R. I. M., I, 352³; id., loc. cit., IV, 475⁴; Green, Spol. Zeyl., IV, 183; Bentley, Malaria in Bombay, 62⁶; Johns., B. Ent. R., IX, 325-3327, [Nigerian notes]; Enderl., Wien. Ent. Zeit., XXXVIII, 47⁶; Theo., Nov.

6 Bombay. 4, 9, 10 Bengal.

4, 9 Sylhet.

<sup>4</sup> Manipur. <sup>9</sup>, <sup>10</sup> U. Burma.

<sup>4</sup>, <sup>5</sup>, <sup>9</sup> Ceylon.

3, 9, 10 Philippines.
3, 9 F. M. S.

3, 9, 10 Queensland.
3, 4, 7, 9, 10 Africa

(general).

Culic., I, 17, fig. 6, [male genitalia]; Brun., R. I. M., XVII, 1619; Theo., Monog. Culic., V, 39210; Charm., Ann. Trop. Med. Paras., II, (3), 262; Banks, Phil. Jo. Sci., I, (9), 998. Culex maculicrura, Theo., Monog. Culic., II, 34, Pl XXII, 85, (1901).

3, 8 Madagascar. <sup>1</sup> Mauritius.

10 Arabia

## tipuliformis, Theobald.

Culex tipuliformis, Theo., Monog. Culic., II, 325, fig. 206<sup>1</sup>, (1901); Giles, Handbook, (2nd edn.), 443; Blanch., Moustiques, 363; Brun., R. I. M., I, 353; Edw., B. Ent. R., III, 31; Brun., R. I. M., XVII, 1642; Barraud, B. Ent. R., X, 3238; id., loc. cit., XI, 3949.

Culex creticus, Theo., Monog. Culic., III, 1893, (1903).

Culex onderstepoortensis, Theo., S. Af. Dpt. Ag., 1st Vety. Rpt., (1911).

Culex pettigrewi, Theo., R. I. M., IV, 5 (1910)<sup>5</sup>; id., Monog. Culic., V, 351; Brun., R. I. M., IV, 475; id., loc. cit., XVII, 1676.

Culex theileri, Theo., Monog. Culic., III, 187, (1903); id., loc. cit., V, 356<sup>7</sup>; Edw., B. Ent. R., II, 26211; Gough, loc. cit., V, 13512.

1, 2 Bakloh (Punjab).

<sup>5</sup>, <sup>6</sup> Manipur.

4, 7, 11 Africa.

<sup>11</sup> Madeira.

8 Mesopotamia. 9, 12 Egypt.

3, 9 Levant

#### trimaculatus. Theobald.

Culex trimaculatus, Theo., Ann. Mus. 1, 2, 3 Bombay. Hung., III, 86, fig. 51, (1905); id., Monog. Culic., IV, 4272, fig. 187; Brun., R. I. M., XVII, 1633.

[Apparently not recognized since its description.]

### tritæniorhynchus, Giles.

Culex tritæniorhynchus, Giles, Bom. Jo., XIII, 606, (1901)<sup>1</sup>, [provis. descr.]; id., Entom., XXXIV, 192; id., Hand- 3, 10 Bombay. book, (2nd edn.), 401; Theo., Monog.

3 Bengal.

<sup>3</sup> Central India.

<sup>3</sup> Madras.

Culic., I, 364, fig. 124; Blanch., Moustiques, 294; Brun., R. I. M., I, 355<sup>2</sup>; Edw., B. Ent. R., IV, 233; id., loc. cit., VII, 224, [distinctions of sitiens, tritæniorhynchus & vishnui]; Brun., R. I. M., XVII, 161<sup>3</sup>; James, I. J. Med. R., II, 262<sup>4</sup>; Stanton, loc. cit., III, 257<sup>5</sup>; Ingram & McFie, B. Ent. R., VII, 73<sup>6</sup>, [pupa]; id., loc. cit., VII, 149, [early stages]; Barraud, loc. cit., X, 323; Stanton, loc. cit., X, 333, [distribution in far East. ports]; White, I. J. Med. R., VIII, 318<sup>8</sup>; Aust., B. Ent. R., XII, 116<sup>9</sup>.

Culex annulus, Theo., Monog. Culic., I, 358, (1901); Giles, Handbook, (2nd edn.), 405; Blanch., Moustiques, 293; Leic., Culic. Malaya, 144; Brun., R. I. M., I, 343<sup>11</sup>.

Culex biroi, Theo., Ann. Mus. Hung., III,
82, Pl. I, (1905); id., Monog. Culic.,
IV, 390, figs. 164, 165; Brun., R. I.
M., I, 34310.

Culex sitiens, Theo., (nec. Wd.), Monog.
Culic., I, 360, fig. 121, (1901); Giles,
Handbook, (2nd edn.), 400; Blanch.,
Moustiques, 293; Leic., Culic. Malaya,
143; Brun., R. I. M., I, 352; id., loc.
cit., IV, 475.

Culex vishnui, Theo., Monog. Culic., I, 355, figs. 119, 120a, (1901) [male only]; Giles, Handbook, (2nd edn.), 399, Pl. XVI, 5a, b, [male only]; Blanch., Moustiques, 293, [male only]; Theo., Monog. Culic, IV, 387, fig. 163, [male only], Brun., R. I. M., I, 354; id., loc. cit., IV, 476.

#### univittatus, Theobald.

Culex univitatus, Theo., Monog. Culic., II, 29, fig. 161, Pl. XXII, 86, (1901); Giles, Handbook, (2nd edn.), 428,

<sup>1</sup>, <sup>2</sup>, <sup>3</sup> Travancore. <sup>3</sup>, <sup>4</sup>, <sup>8</sup> Ceylon.

3, 11 F. M. S.

3, 5 Sumatra.

<sup>8</sup> Malaysia.

<sup>2</sup> Celebes.

<sup>2</sup> Philippines.

3, 11 China.

3, 7 Mesopotamia.

<sup>6</sup> Zanzibar.

6 Gold Coast.

<sup>9</sup> Palestine.

Shillong (White).

<sup>&</sup>lt;sup>1</sup> Singapore.

<sup>3, 4</sup> Madagascar.

[univitatus, laps.]; Blanch., Moustiques, 321; Brun., R. I. M., I, 3531; Theo., Monog. Culic., V, 356; Brun., R. I. M., XVII, 163; Edw., B. Ent. R., IV, 58, [genitalia]; id., loc. cit., V, 67, fig. 5, [genitalia]; id., loc. cit., XI, 1373; Barraud., loc. cit., XI, 3942. Heptaphlebomyia montforti, Vent., Arch. Paras., IX, 4484, (1905).

<sup>1</sup> Africa, S. and E.

<sup>2</sup> Palestine.

Egypt.

## vagans, Wiedemann.

Culex vagans, Wd., Auss. Zweifl. Ins., I, 545<sup>1</sup>, (1828); Wlk., List. Dipt. B. M., I, 9; Wulp., Cat. Dipt. S. Asia, 33<sup>2</sup>; Theo., Monog. Culic., I, 411, fig. 146; id., loc. cit., IV, 14; id., loc. cit., V, 3473, [male described]; Giles, Handbook, 279; id., loc. cit., (2nd edn.), 414, Pl. XVI, 14; id., Jo. Trop. Med., VII, 368; Blanch., Moustiques, 304; Brun., R. I. M., I, 3534; id., loc. cit., IV, 4765; id., loc. cit., XVII, 1606.

3, 5, 6 Madras City:

3, 4, 8 Philippines. 1, 2, 3, 4, 6 China.

#### vishnui, Theobald.

Culex vishnui, Theo., Monog. Culic., I, 355, figs. 119, 120, Pl. XVIII, 66, (1901) [female only]; id., loc. cit., IV, fig. 162, Pl. V; Blanch., Moustiques, 293, [female only]; Brun., R. I. M., I, 354<sup>2</sup>; id., loc. cit., IV, 476<sup>3</sup>; Edw., B. Ent. R., IV, 233; id., loc. cit., VII, 225; Green, Spol. Zeyl., IV, 1804, [sucking a moth]; James, I. J. Med. R., II, 262<sup>5</sup>; Stanton, loc. cit., III, 2576; McFarl., B. Ent. R., VI, 677; Stanton, loc. cit., X, 333, [distribution in far East. ports; Edw., loc. cit., XII, 77; Brun., R. I. M., XVII, 16210. Culex impellers, Theo., (nec. Wlk.), Monog. Culic., I, 362, figs. 122, 123, (1901); id., loc. cit., IV, 15; Giles, Handbook, (2nd edn.), 399, Pl. XVI,

9, 11 United Provinces.

<sup>3</sup> Punjab.

10, 11 Nepal.

3, 10 Sylhet.

2, 11 Bengal.

3, 11 Orissa.

1, 2 Central India

<sup>2</sup> Madras.

<sup>2</sup>, <sup>11</sup> Malabar Coast. 2, 4, 5, 10, 1 Ceylon.

10, 11 Burma.

<sup>3</sup>, <sup>10</sup>, <sup>8</sup>, <sup>9</sup>, <sup>13</sup> F. M. S

<sup>6</sup> Sumatra.

7 Hongkong.

<sup>10</sup>, <sup>9</sup> Celebes.

10, 11, 12, 14 Java.

10, Philippines.

3a, [female only]; Blanch., Moustiques, 294; Leic., Culic. Malaya, 1428; Brun., R. I. M., I, 3479; id., loc. cit., IV, 47011.

? Culex mic otæniatus, Theo., Tijd. v. Ent., LIV, 236<sup>12</sup>, (1911).

Culex perplexus, Leic., Culic. Malaya, 150, (1908), Brun., R. I. M., IV, 473<sup>13</sup>. Culex pseudoinfula, Theo., Tijd. v. Ent., LIV, 237<sup>14</sup>, (1911).

[The Indian localities, (Nilgiris, Madras North India), given by Brun., R. I. M., I, 343, for Culex (Aedes) cantans, Mg. are almost certainly the result of misidentification.]

### SABETHINI.

Brun, R. I. M., X, 48; Theo., Monog Culic., V, 554, 574, [Metanoto richæ].

## 24. Rachionotomyia, Theobald.

Rachionotomyia, Theo., Bom. Jo., XVI, 248, (1905)[Genotype, Wyeomyia aranoides, Theo., as R. ceylonensis, Theo.]; id., Monog. Culic., IV, 518; Edw., B. Ent. R., IV, 240; Brun., R. I. M., I, 368; id., loc. cit., IV, 485; id., loc. cit., X, 70; id., loc. cit., XVII, 180.

Binotia, Blanch., Arch. Paras., VIII, 478, (1904) [nom. nov. for Runchomyia,

supposed præocc.].

Colonemyia, Leic., Culic. Malaya, 233, (1908) [Genotype, C. cæruleocephala, Leic.]; Brun., R. I. M., IV, 498; id., loc. cit., X, 58.

Polylepidomyia, Theo., Ann. Mus. Hung., III, 118, (1905) [Genotype, P. argen teiventris, Theo.]; id., Monog. Culic., IV, 625; Brun., R. I. M., I, 366; id., loc. cit., IV, 502; id., loc. ci., X, 68.

Runchomyia, Theo., Monog. Culic., III, 319, (1903) [Genotype, R. frontosa, Theo.]; id., loc. cit., IV, 585; id., loc. cit., V, 555; id., Gen. Ins. fasc., XXVI, 38; Brun., R. I. M., I, 365; id., loc. cit., IV, 493; id., loc. cit., X, 71.

Skeiromyia, Leic., Culic. Malaya, 248, (1908) [Genotype, S. fusca, Leic.]; Brun., R. I. M., IV, 500; id., loc. cit., X, 71.

Squamomyia, Theo., R. I. M., IV, 28, (1910) [Genotype, S. inornata, Theo.]; id., Monog. Culic., V, 529; Brun., R. I. M., IV, 489; id., loc. cit., X, 71.

### affinis, Edwards.

Phoniomyia cæruleocephala, Theo., Monog. Culic., V, 577<sup>1</sup>, fig. 252, (1910); Brun., R. I. M., IV, 502.

Rachionotomyia affinis, Edw., B. Ent. R., IV, 241, (1913), [nom. nov. præocc. by Colonemyia cæruleocephala, Leic.]; Brun., R. I. M., XVII, 182<sup>2</sup>.

1, 2 Hakgala (Ceylon).

## aranoides, Theobald.

Wyeomyia aranoides, Theo., Monog. Culic., II, 274, (1901); Giles, Handbook, (2nd edn.), 499; Blanch., Moustiques, 425; Brun., R. I. M., I, 365<sup>1</sup>.

Rachionotomyia aranoides, Edw., B. Ent. R., IV, 241; James, I. J. Med. R., II, 263<sup>2</sup>; Stanton, B. Ent. R., X, 333, [distribution in far East. ports]; Brun., R. I. M., XVII, 181<sup>3</sup>; White, I. J. Med. R., VIII, 320<sup>4</sup>, [systematic position discussed].

Rachionotomyia ceylonensis, Theo., Bom. Jo., XVI, 248, Pl. B, 6, (1905); Brun., R. I. M., I, 369<sup>5</sup>.

Skeiromyia fusca, Leic., Culic. Malaya, 248, (1908)<sup>6</sup>; Brun., R. I. M., IV, 500

2, 3, 4, 5 Ceylon.
3, 7, 8, 9 Dawnat Hilk
(Lower Burma)

<sup>1</sup>, <sup>6</sup> Malaysia.

Squamomyia inornata, Theo., R. I. M., IV, 287, (1910); id., Monog. Culic., V, 5298; Brun., R. I. M., IV, 4899.

## 25. Wyeomyia, Theobald.

Wyeomyia, Theo., Monog. Culic., II, 267, (1901) [Genotype, W. grayii, Theo.]; id., Jo. Trop. Med., II, 235, [nom. nud.]; id., Monog. Culic., III, 310, [restricted]; id., loc. cit., V, 579; id., Gen. Ins. fasc., XXVI, 38; Blanch., Moustiques, 423; Giles, Handbook, (2nd edn.), 495; Leic., Culic. Malaya, 250; Brun., R. I. M., I, 365; id., loc. cit., IV, 501; id., loc. cit., X, 73; id., loc. cit., XVII, 182-3; How., Dyar & Knab, Mosq. N. Amer., IV, (1), 49.

Bolbodeomyia, Theo., R. I. M., IV, 31, (1910) [Genotype, B. complex, Theo.]; id., Monog. Culic., V, 581; Brun., R. I. M.,

IV, 492; id., loc. cit., X, 56.

Dendromyia, Theo., Monog. Culic., III, 213
 [1903) [Genotype, D. ulocoma, Theo.];
 id., loc. cit., IV, 603; id., loc. cit., V,
 587, [table of spp.]; id., Gen. Ins. fasc.,
 XXVI, 39; Blanch., Moustiques, 426;
 Leic., Culic. Malaya, 25; Brun., R. I.
 M., IV, 502; id., loc. cit., X, 59.

Heinzmannia, Ludl., Can. Ent., XXXVII, 130, (1905), (Heizmannia, laps.) [Genotype, H. scintillans, Ludl.]; Banks, Phil. I. Jo. Sci., I, 99; Brun., R. I. M., I, 366; id., loc. cit., X, 61.

Phoniomyia, Theo., Monog. Culic., III, 311, (1903) [Genotype, Wyeomyia longirostris, Theo.]; id., loc. cit., IV, 598; id., Gen. Ins., fasc., XXVI, 38; Blanch., Moustiques, 425; Leic., Culic. Malaya, 253; Brun., R. I. M., I, 365; id., loc. cit., IV, 502; id., loc. cit., X, 68.

complex, Theobald.

Bolbodeomyia complex, Theo., R. I. M., IV, 311, (1910); id., Monog. Culic., V, 581<sup>2</sup>, figs. 253-255; Brun., R. I. M., IV, 4923.

Wyeonyia complex, Brun., R. I. M., XVII, 1844.

greeni,

Wyeomyia greenii, Theo., Bom. Jo., XVI, 247<sup>1</sup>, Pl. B, 5, (1905); id., Monog. Culic., IV, 596; Brun., R. I. M., I, 366; id., loc. cit., IV, 501; id., loc. cit., XVII, 1832.

26. Topomyia, Leicester.

Topomyia, Leic., Culic. Malaya, 238, (1908) [Genotype, T. minor, Leic.]; Brun., R. I. M., IV, 499; id., loc. cit., X, 72; id., loc. cit., XVII, 179.

Pseudograhamia, Theo., R. I. M., IV, 26, (1910) [Genotype, P. aureoventer, Theo.]; id., Monog. Culic., V, 551; Brun., R. I. M., IV, 460; id., loc. cit., X, 69.

argenteoventralis, Leicester.

Topomyia argenteoventralis, Leic., Culic. 3, 4, 5 Travancore. Malaya, 240<sup>1</sup>, (1908).

Topomyia argyroventralis, Brun., R. I. M., IV, 4992, [laps.].

Topomyia argenteoventralis, Edw., B. Ent. R., IV, 240; Brun., R. I. M., XVII, 1793.

Pseudograhamia aureoventer, Theo., R. I. M., IV, 27<sup>4</sup>, (1910); id., Monog. Culic., V, 551; Brun., R. I. M., IV, 460, 4895.

27. Hodgesia, Theobald.

Hodgesia, Theo., Jo. Trop. Med., VII, 17, (1904) [Genotype, H. sanguin $\alpha$ , Theo.]; id., Monog. Culic., IV, 579; id., loc. cit., V, 544; id., Gen. Ins. fasc., XXVI,

<sup>1</sup>, <sup>2</sup> Peradeniya.

1, 2, 3, 4 Dawnat

(L. Burma).

Hills

<sup>1</sup>, <sup>2</sup>, <sup>3</sup> F. M. S.

40; Giles, Jo. Trop. Med., VII, 368; Leic., Culic. Malaya, 229; Blanch., Moustiques, 631; Brun., R. I. M., I, 367; id., loc. cit., IV, 500; id., loc. cit., X, 62; id., loc. cit., XVII, 179.

### malayi, Leicester.

Hodgesia malayi, Leic., Culic. Malaya, 231<sup>1</sup>, (1908); Brun., R. I. M., IV, 500; James, I. J. Med. R., II, 263<sup>3</sup>; Brun., R. I. M., XVII, 179<sup>2</sup>.

### <sup>3</sup> Colombo.

1, 2 Kuala Lumpur.

# 28. Harpagomyia, de Meijere.

Harpagomyia, Meij., Tijd. v. Ent., LII, 165, (1909) [Genotype, H. genurostris, Leic. as H. splendens, Meij.]; id., loc. cit., LIV, 126, [metamorphoses]; Theo., Monog. Culic., V, 547; Brun., R. I. M., IV, 504; id., loc. cit., X, 61; id., loc. cit., XVII, 178; Edw., B. Ent. R., IV, 240.

Grahamia, Theo., Rpt. Dr. Graham's coll., (1909) [Genotype, G. trichorostris, Theo.]; id., Monog. Culic., V, 497, (note); Brun., R. I. M., X, 61.

Malaya, Leic., Culic. Malaya, 258, (1908) [Genotype, M. genurostris, Leic.] (Præocc. Malaia, Heller]; Brun., R. I. M., IV, 503; id., loc. cit., X, 64.

### genurostris, Leicester.

Malaya genurostris, Leic., Culic. Malaya, 258, (1908); Brun., R. I. M., IV, 503<sup>1</sup>. Harpagomyia genurostris, Edw., B. Ent. R., IV, 240; James, I. J. Med. R., II, 263<sup>2</sup>; Stanton, loc. cit., III, 258<sup>3</sup>; Brun., R. I. M., XVII, 178<sup>4</sup>.

Harpagomyia cæruleovittata, Ludl., Psyche, XVIII, 131<sup>5</sup>, (1911).

Harpagomyia splendens, Meij., Tijd. v. Ent., LII, 1676, Pl. X, 1-9, (1909); Theo., Monog. Culic., V, 5507; Brun., R. I. M., IV, 5048.

<sup>2</sup> Colombo.

<sup>1</sup>, <sup>4</sup> F. M. S. <sup>6</sup>, <sup>7</sup>, <sup>8</sup> Java. <sup>4</sup>, <sup>5</sup> Philippines <sup>3</sup> Sumatra.

#### INDEX TO GENERA

Acartomyia = Ochlerotats
Aedinorphus = Ochlerotatus,
Aedinorphus = Ochlerotatus,
Aedinoryia = Culex.
Aedeomyia, 7.
Aedomyia = Aedeomyia.
Aioretomyia = Aedes,
Aldrichia = Anopheles,
Aldrichinella = Anopheles.
Andersonia = Ochlerotatus,
Anisocheleomyia = Uranotænia.
Anopheles, 3.
Aporoculex = Culex.
Armigeres, 11.
Arribalzagia = Anopheles.

Bancroftia — Orthopodomyia. Banksinella, 19.
Bathosomyia — Ochlerotatus. Binotia — Rachionotomyia. Blanchardiomyia — Armigeres. Bolbodeomyia — Wyeomyia. Boycia — Mimomyia. Brevirhynchus — Leicesteria.

Cacomyia = Ochlerotatus. Catageiomyia=Aedes. Cellia=Anopheles. Chætomyia=Leicesterial. Chaoborus, 1. Christophersia = Anopheles. Christya=Anopheles. Chrysoconops = Ochlerotatus. Climacura = Culex. Cœlodiazesis=Anopheles. Colonemyia=Rachionotomyia. Conopomyia=Mimomyia. Coquilletidia=Tæniorhynchus. Corethra=Chaoborus. Corethrella, 2. Culex, 23. Culicada = Ochlerotatus. Culicella=Culex. Culicelsa = Ochlerotatus. Culiceta=Theobaldia. Culiciomyia, 20. Cyathomyia = Lophoceratomyia. Cyclolepidopteron=Anopheles. Cycloleppteron = Anopheles.

Dactylomyia = Anopheles.
Danielsia = Ochlerotatus.
Dasymyia = Ficalbia.
Dendromyia = Wyecmyia.

Desvoidea = Armigeres.
Desvoidya = Armigeres.
Diceromyia = Culex.
Duttonia = Ochlerotatus.

Ecculex = Ochlerotatus. Etorleptiomyia = Ficalbia. Eumelanomyia = Gulex.

Feltinella = Anopheles. Ficalbia, 8. Finlaya = Ochlerotatus.

Geitonomyia — Ochlerotatus.
Gilesia — Ochlerotatus.
Gnophodeomyia — Culex.
Gnophodromyia — Culex.
Grahamia — Harpagomyia.
Grassia — Anopheles.
Gualteria — Ochlerotatus.
Gymnometopa — Stegomyia.

Harpagomyia, 28.

Heinzmannia= Wyeomyia.

Heizmannia= Wyeomyia.

Heptaphlebomyia= Culex.

Heteronycha= Aedes.

Hispidimyia= Mimomyia.

Hodgesia, 27.

Howardia= Anopheles.

Howardina= Ochlerotatus.

Hulecoetomyia= Stegomyia.

Ingramia=Ficalbia. Inscules=Stegomyia.

Jamesia = Culex.

Kerteszia=Anopheles. Kingia=Stegomyia.

Lasioconops=Culex.
Laverania=Anopheles.
Leicesteria, 12.
Leicesteriomyia=Leicesteria.
Lepidoplatys=Ochlerotatus.
Lepidotomyia (I)=Ochlerotatus.
Lepidotomyia (II)=Ochlerotatus.
Leslieomyia=Ochlerotatus.
Leucomyia=Culex.
Lophocelomyia=Anopheles.
Lophoscelomyia=Anopheles.
Lophoscelomyia=Anopheles.
Ludlowia=Mimomyia.
Lutzia=Culex.

Macleaya = Aedes. Maillotia = Culex. Malaya=Harpagomyia. Manguinhosia = Anopheles. Mansonia=Tæniorhynchus. Mansonioides, 18. Megaculex=Mimomyia. Melanoconion = Culex. Melanoconium=Culex. Melanoconops=Culex. Memnemyia = Anopheles. Microculex=Culex. Mimeteomyia = Culex. Mimetoculex = Ochlerotatus. Mimomyia, 9. Mochlostyrax=Culex. Molpemyia = Ochlerotatus. Mucidus, 5. Myxosquamus = Ochlerotatus. Myzomyia = Anopheles. Myzorhynchella =Anopheles. Myzorhynchus = Anopheles.

 $\begin{tabular}{ll} Neocellia &= Anopheles. \\ Neomacleaya &= Aedes. \\ Neomacleaya &= Aedes. \\ Neomacleaya &= Aedes. \\ Neomelanoconion \ (p. p.) &= Culiciomyia. \\ Neomyzomyia &= Anopheles. \\ Neopecomyia &= Ochlerotatus. \\ Neostethopheles &= Anopheles. \\ Notonotricha &= Anopheles. \\ Nototricha &= Anopheles. \\ Nyssomyzomyia &= Anopheles. \\ Nyssomyzomyia &= Anopheles. \\ Nyssorhynchus &= Anopheles. \\ \end{tabular}$ 

Ochlerotatus, 14.

Oculeomyia=Lophoceratomyia.

O'reillia=Ficalbia.

Orthopodomyia, 16.

Panoplites=Teniorhynchus,
Patagiamyia=Anopheles.
Pecomyia=Ochlerotatus.
Pectinopalpus=Culiciomyia.
Phagomyia=Ochlerotatus.
Philodendromyia=Lophoceratomyia,
Phoniomyia=Wyeomyia,
Pneumaculex=Culex.
Polylepidomyia=Rachionotomyia.
Polylepitomyia=Ochlerotatus.
Popea=Culex.
Protoculex=Ochlerotatus.

Protomacleaya — Ochlerotatus.
Protomelanoconion, 22.
Pseudocarrollia — Ochlerotatus.
Pseudograbhamia — Ochlerotatus.
Pseudograbhamia — Topomyia.
Pseudoprabhamia — Topomyia.
Pseudoheptaphlebomyia — Culex.
Pseudohowardina — Ochlerotatus.
Pseudoskusea — Ochlerotatus.
Pseudotheobaldia — Theobaldia.
Pseudouranotænia — Uranotænia.
Pyretophorus — Anopheles.

Quasistegomyia=Stegomyia.

Rachionotomyia, 24.
Rachisoura = Culex.
Radioculex = Mimomyia.
Ramcia = Corethrella.
Reedomyia = Ochlerotatus.
Rhynchotaenia = Taeniorhynchus.
Rossia = Anopheles.
Runchomyia = Rachionotomyia.

Scutomyia=Stegomyia.
Skeiromyia=Rachionotomyia.
Skusea=Aedes.
Squamomyia=Rachionotomyia.
Stegoconops=Ochlerotatus.
Stegomyia, 13.
Stenoscutus=Ochlerotatus.
Stethomyia=Anopheles.

Sayomyia=Chaoborus.

Tæniorhynchus, 17.

Teromyia=Toxorhynchites.
Theobaldia, 15.
Theobaldinella=Theobaldia.
Theobaldiomyia=Culex.
Thomasina=Culex.
Tinolestes=Culex.
Topomyia, 26.
Toxorhynchites, 4.
Trichopronomyia=Culex.
Trichorhynchomyia=Culiciomyia.
Trichorhynchus=Culiciomyia.

Uranotænia, 6.

Verrallina=Aedes.

Worcesteria=Toxorhyynchites. Wyeomyia, 25.

### INDEX TO SPECIES.

abdominalis=bitæniorhynchus. Culex. acer=brevicellulus. Tæniorhynchus.
aconitus=minimus var. aconitus. Anopheles. aconitus var. cohæsa=minimus. Anopheles. ægypti=? dorsalis. Ochlerotatus. ægypti=? fasciata. Stegomyia. æstuans=fatigans. Culex. affinis. Rachionotomyia. affinis = annulata. Theobaldia. africanus var. reversus=uniformis. Mansonioides. ager = bitæniorhynchus. Culex. aitkeni. Anopheles.

aitkeni var. insulæflorum=aitkeni. Anoaitkeni var. papuae=aitkeni. Anopheles. albipes = anopheloides. Orthopodomyia. albipes var. nigritarsis = anopheloides. Orthopodomyia. albirostris = minimus var. aconitus. Anopheles. alboannulata. Uranotænia. albolateralis=niveus. Ochlerotatus. albolineata. Stegomyia. albopalposus=fasciata. Stegomyia. albopicta. Stegomyia. albopleura = pallidothorax. Culiciomyia. alboscutellatus. Ochlerotatus. albotæniatus. Ochlerotatus. ambiguus = bitæniorhynchus. Culex. angulata=viridiventer. Culiciomyia. anguste-alatus=fasciata. Stegomyia. annandalei. Anopheles. annandalei. Stegomyia. annulata. Theobaldia. annulifemur=periskelata. Stegomyia. annulifera. Mansonioides. annulipalpis. Leicesteria. annulipes. Mansonioides. annulirostris. Stegomyia. annulirostris=sitiens. Culex. annulitarsis=magna. Leicesteria. annulitarsis=fasciata. Stegomyia. annuloabdominalis=pallidothorax. Culicioannulus=tritæniorhynchus. Culex. anopheloides. Orthopodomyia.

anxifer=fatigans. Culex.

aranoides. Rachionotomyia. argenteomaculata. Stegomyia.

apicalis. Armigeres. apicalis=flava. Leicesteria.

argenteoventralis. Topomyia. argenteus=fasciata. Stegomyia. argentoventralis = argenteoventralis. Topoargyropus=sinensis. Anopheles. argyroventralis = argenteoventralis. myia. articulatus=vexans. Ochlerotatus. asiatica=manilensis. Chaoborus. asiaticus. Anopheles. assamensis. Stegomyia. atra. Uranotænia. auratus=imprimens. Ochlerotatus. aureolineatus. Armigeres. aureoventer=argenteoventralis. Topomyia. australiensis=uniformis. Mansonioides. azriki-turkhudi. Anopheles.

argenteotarsis = splendens. Toxorhynchites.

bahri. Culiciomyia.

bancrofti=fasciata. Stegomyia.
barbirostris. Anopheles.
barbirostris var. pallidus=barbirostris.
Anopheles.
barianensis. Anopheles.
bicornuta=mammilifer. Lophoceratomyia.
biroi=tritæniorhynchus. Culex.
bitæniorhynchus. Culex.
bramacharii=minimus var. aconitus. Anopheles.
brevicellulus. Tæniorhynchus.
brevipalpis. Protomelanoconion.
butleri. Aedes.

cæruleocephala=affinis. Rachionotomyia.
cæruleovittata=genurostris. Harpagomyia.
calopus=fasciatà. Stegomyia.
campestris. Uranotaenia.
cantans. Vid. Culex.
cardamitis=superpictus. Anopheles.
cartroni=fatigans. Culex.
caspius (Curt.)=nigripes. Ochlerotatus
catastricta. Aedeomyia.
ceylonica=punctulatus var. tesselatus
Anopheles.
ceylonica=fragilis. Culiciomyia.

ceylonica=fragilis. Culiciomyia.
ceylonica=atra. Uranotænia.
ceylonicus. Aedes.
ceylonensis=aranoides. Rachionotomyia.
chamberlaini. Mimomyia.
christophersi=minimus. Anopheles.
christophersi=fatigans. Culex.

christophersi var. alboapicalis=minimus var. fluviatilis=funestus var. listoni. Anopheles. aconitus. Anopheles. chrysolineata = trilineata. Stegomyia. chrysoscuta=ostentatio. Ochlerotatus. clavipalpus=chamberlaini. Mimomyia. cœruleocephala var. lateralis = lateralis. Uranotænia. completiva=luzonensis. Ficalbia. complex. Wyeomyia. concolor. Culex. crassipes=apicalis. Armigeres. crassipes=albopicta. Stegomyia. creticus=tipuliformis. Culex. culicifacies. Anopheles. culicifacies (p. p.)=turkhudi. Anopheles. Anopheles. culicifacies var. sergenti = culicifacies. Ano fuliginosus var. fowleri = pallidus. pheles.

deceptor=punctulatus var. tesselatus. Ano-fuliginosus var. nivipes. Anopheles. pheles. desmotes. Stegomyia. diurna=butleri. Aedes. dives=annulipes. Mansonioides. dofleini. Ficalbia. dolosa == fatigans. Culex. domesticus = bitæniorhynchus. Culex. dorsalis. Ochlerotatus. d'thali=rhodesiensis. Anopheles. dudgeoni=willmori. Anopheles.

culiciformis. Anopheles.

elegans=leucosphyrus. Anopheles. elegans=fasciata. Stegomyia. enochrus=vexans. Ochlerotatus. epidesmus. Culex. error=rossi. Anopheles. eruthrosops=vexans. Ochlerotatus. exagitans=fasciata. Stegomyia. excitans=fasciata. Stegomyia.

falcipes=testacea. Uranotænia. fasciata. Stegomyia. fasciata var. atritarsis = fasciata. Stegomyia. gilesi = splendens. Toxorhynchites. fasciata var. luciensis=fasciata. Stegomyia. glaphyroptera. Theobaldia. fasciata var. mosquito=fasciata. Stegomyia. gnopholes=sitiens. Culex. fasciata var. persistans=fasciata. Stegomyia. queenslandensis=fasciata. fasciata var. Stegomyia. fatigans. Culex. fatigans var. luteoannulatus. Culex. febrifer=minimus. Anopheles. flava=immaculatus. Anopheles. flava. Leicesteria.

flavirostris=minimus var. aconitus. Anopheles. flavus=kochi. Anopheles. foochowensis=fatigans. Culex. formosaensis (I)=minimus. Anopheles. formosus=fasciata. Stegomyia. fouchowensis=fatigans. Culex. fowleri=pallidus. Anopheles. fragilis=aitkeni. Anopheles. fragilis. Culiciomyia. frater=fasciata. Stegomyia. fuliginosus. Anopheles. fuliginosus, (James & Stanton)=fuliginosus var. nivipes. Anopheles. culicifacies var. punjabensis=culicifacies. fuliginosus var. adiei=fuliginosus. Anopheles. Anopheles. fuliginosus var. nagpori=fuliginosus. Anopheles. fuliginosus var. pallidus. = pallidus. Anopheles. funesta (Ludl.)=minimus. Anopheles. funestus var. leptomeres=funestus var. listoni. Anopheles. funestus var. listoni. Anopheles. funesta var. subumbrosa=funesta var. listoni. Anopheles. fusca=aranoides. Rachionotomyia. fuscanus. Culex. fuscocephalus. Culex.

> gelidus. Culex. gelidus var. bipunctatus. Culex. gelidus var. cuneatus. Culex. gelidus var. sinensis. = sinensis. Culex. genurostris. Harpagomyia. gigas. Anopheles. gigas var. simlensis=gigas. Anopheles goughii=fatigans. Culex.
> grata=splendens. Toxorhynchites. gravelyi. Toxorhynchites. greeni. Ochlerotatus. greeni. Wyeomyia. gubernatoris. Ochlerotatus.

fuscopteron = brevicellulus. Tæniorhynchus.

fuscus. Armigeres.

fuscus=fragilis. Culiciomyia.

halifaxi. Culex. halli-kochi. Anopheles. hatiensis=butleri. Aedes.
himalayana=pulchriventer. Ochlerotatus.
hirsutum=vexans. Ochlerotatus.
hispaniola=turkhudi. Anopheles.
hyrcanus=? sinensis. Anopheles.
hyrcanus=? mimeticus. Culex.

imitator=w-alba. Stegomyia. immaculatus. Anopheles. immisericors = splendens. Toxorhynchites. impatabilis=fasciata. Stegomyia. impellens, (Wlk.)=sitiens. Culex. impellens, (Theo.)=vishnui. Culex. impiger=nigripes. Ochlerotatus. implacabilis=nigripes. Ochlerotatus. imprimens. Ochlerotatus. inepta. Corethrella. indefinita=rossi var. vagus. Anopheles. indica=willmori. Anopheles. indicus. Aedes. indicus=culicifacies. Anopheles. indica. Theobaldia. indica var. simplex=uncus. Aedes indiensis=maculipalpis. Anopheles. inexorabilis=fasciata. Stegomyia. infula=bitæniorhynchus. Culex. inornata=fragilis. Culiciomyia. inornata = aranoides. Rachionotomyia. intermedia=stephensi. Anopheles.

jamesi, Anopheles,
jamesi (List.)=fuliginosus. Anopheles,
jamesi (Steph. & Chris.)=maculipalpis,
Anopheles,
jamesi. Ochlerotatus.
japonicus=japonicus var. ceylonicus.
Culex.
japonicus var. ceylonicus. Culex.
jesoensis=sinensis. Anopheles.
jeyporiensis. Anopheles.
juxtapallidiceps=minutissima. Lophoceratomyia.

karwari. Anopheles. kempi. Toxorhynchites. kochi. Anopheles. konoupi=fasciata. Stegomyia.

lamberti=albopicta. Stegomyia.
laniger. Mucidus.
lateralis. Uranotænia.
leptomeres=funestus var. listoni. Anopheles.
leucophyrus=leucosphyrus. Anopheles.
leucosphyrus. Anopheles.
leucosphyrus. Anopheles.

leucosphyrus elegans=leucosphyrus var. Anopheles. leucosphyrus var. hackeri=leucosphyrus. Anopheles. lewaldii = splendens. Toxorhynchites. lineatopennis=luteolateralis. Banksinella. lindesaii. Anopheles. lindesayi=lindesaii. Anopheles. lindesayi var. maculata=lindesaii. Anopheles. listoni=funestus var. listoni. Anopheles. listoni (Giles) = culicifacies. Anopheles. listoni var. alboapicalis=minimus var. aconitas. Anopheles. longifurcatus=viridiventer. Culiciomyia. lophoventralis = gubernatoris. Ochlerotatus. lowisi. Ochlerotatus. luciensis=fasciata. Stegomyia. ludlowi. Anopheles. luteoabdominalis=epidesmus. Culex. luteola=fuscocephalus. Culex. luteolateralis. Banksinella. luzonensis. Ficalbia.

maculata = piperselatus. Ochlerotatus. maculata=teniorhynchoides. Ochlerotatus. maculata = anopheloides. Orthopodomyia. maculatus. Anopheles. maculatus var. theobaldi=theobaldi. maculatus var. willmori=maculatus? Anopheles. maculatus var. willmori = willmori ? Anopheles. maculipalpis. Anopheles. maculicrura=tigripes. Culex. maculipalpis var. indiensis=maculipalpis. Anopheles. maculipes = anopheloides. Orthopodomyia. magna. Leicesteria. magna=gubernatoris. Ochlerotatus. malayi. Hodgesia. malayi=uncus. Aedes.
malayi=fuscus. Armigeres. mammilifer. Lophoceratomyia. mangyana=minimus. Anopheles. manilensis. Chaoborus. mediofasciata=indicus. Aedes. mediolineatus. Ochlerotatus. mediopunctata. Stegomyia.

metaboles=stephensi. Anopheles.

microannulatus=sitiens. Culex. microptera. Stegomyia.

microtaeniatus=vishnui. Culex.

mimeticus. Culex.

mimulus. Culex.
minima. Ficalbia.
minimus. Anopheles.
minimus. Toxorhynchites.
minimus var. aconitus. Anopheles.
minor=fuscocephalus. Culex.
minuta=minima. Ficalbia.
minuta=vexans. Ochlerotatus.
minutus=sinensis var. vanus. Anopheles.
minutissima. Lophoceratomyia.
minutissima=w-alba. Stegomyia.
montforti=univittatus. Culex.
mosquito=fasciata. Stegomyia.
mucidus (Leic.)=laniger. Mucidus.
multimaculosus=halifaxi. Culex.

nagpori=fuliginosus. Anopheles. nero=annulipes. Mansonioides. nigeria=fasciata. Stegomyia. nigerrima = minutissima. Lophoceratomyia. nigerrimus = sinensis var. vanus. Anopheles. nigrans=karwari. Anopheles. nigrescens. Aedes. nigripes. Ochlerotatus. nigritarsis=indicus. Aedes. nigrofasciatus=turkhudi. Anopheles. nilgiricus. Culex. nipponii=vexans. Ochlerotatus. niveitæniata=glaphyroptera. Theobaldia. niveoscutellatus. Ochlerotatus. niveus. Ochlerotatus. nivipes fuliginosus var. nivipes. Anopheles. nocturnus vexans. Ochlerotatus. nursei=superpictus. Anopheles.

obturbans. Armigeres.
ocellatus=kochi. Anopheles.
ochracea=epidesmus. Culex.
ochraceus. Tæniorhynchus.
ochraceus=pallidostriatus. Ochlerotatus.
omissa. Leicesteria.
onderstepoortensis=tipuliformis. Culex.
oreophilus. Ochlerotatus.
osakensis=fatigans. Culex.
ostentatio. Ochlerotatus.

palestinensis = superpictus. Anopheles.
pallida = aitkeni. Anopheles.
pallidostriatus. Ochlerotatus.
pallidothorax. Culiciomyia.
pallidus. Anopheles.
pallipes = fatigans. Culex.
panalectoros = fatigans. Culex.
parascelos = pallidostriatus. Ochlerotatus.

parangensis=rossi. Anopheles. peditaeniatus=sinensis var. vanus. pheles. periskelata. Stegomyiz perplexus=vishnui. Culex. pettigrewi=tipuliformis. Culex. piperselatus. Ochlerotatus. piperselata (p. p.) = periskelata. Stegomyia. pipiens (Fb.)=nigripes. Ochlerotatus. plumbeus (Chris.) = barianensis. Anopheles. plumiger=sinensis. Anopheles. pseudodiurnus. Aedes. pseudoinfula=vishnui. Culex. pseudolongifurcatus=viridiventer. Culiciomyia. pseudomediofasciatus. Aedes. pseudonivea=niveus. Ochlerotatus. pseudopictus=sinensis. Anopheles. pseudostenoetrus=vexans. Ochlerotatus. pseudotæniatus. Ochlerotatus. pseudowillmori=maculatus. Anopheles. pulcherrimus. Anopheles. pulchriventer. Ochlerotatus. pulla. Culiciomyia. punctipes. Aedes. punctulatus (Theo.) = punctulatus var. tesselatus. Anopheles. punctulatus var. tesselatus. Anopheles. pygmæus=brevicellulus. Tæniorhynchus.

quasipipiens=fatigans. Culex. queenslandensis=fasciata. Stegomyia. quinquefasciatus=fatigans. Culex.

rectirostris=magna. Leicesteria.
reesii=fatigans. Culex.
regius=splendens. Toxorhynchites.
rhodesiensis. Anopheles.
ronaldi=sitiens. Culex.
rossi. Anopheles.
rossii=fasciata. Stegomyia.
rossi var. indefinita=rossi var. vagus. Anopheles.
rossi var. vagus. Anopheles.

salus=sitiens. Culex.
samarensis=albopicta. Stegomyia.
sarawakii=bitæniorhynchus. Culex.
scatophagoides. Mucidus.
scutellaris (Theo.)=albopicta. Stegomyia.
scutellaris var. samarensis=albopicta. Stegomyia.
seguini=uniformis. Mansonioides.
separatus=sinensis. Anopheles.
sepositus=sinensis. Culex.
septemguttata=annulifera. Mansonioides.

septempunctata—annulifera. Mansonioides.
sergenti—culicifacies. Anopheles.
sericeus—fatigans. Culex.
serratipes—spathipalpis. Theobaldia.
simlensis—gigas. Anopheles.
simplex. Aedes.
sinensis. Anopheles.
sinensis. Culex.
sinensis var. annularis—sinensis var. vanus
Anopheles.
sinensis var. indiensis—sinensis. Anopheles.
sinensis var. vanus. Anopheles.

sinensis var. vanus. Anopheles. sitiens. Culex. sitiens. (Theo.)=tritæniorhynchus. Culex. sitiens (Theo.)=tritæniorhynchus. Culex. somaliensis=sitiens. Culex. spathipalpis. Theobaldia. splendens. Toxorhynchites. splendens=genurostris. Harpagomyia. squamipenna. Aedeomyia. squamipenna. Aedeomyia. squamipennis=squamipenna. Aedeomyia. stenætrus=vexans. Ochlerotatus. stephensi. Anopheles. subalbatus=obturbans. Armigeres, subpictus=rossi. Anopheles. subtilis=dorsalis. Ochlerotatus. subpictus var. vagus=rossi var. vagus. Anopheles var. vagus=rossi var. vagus.

pheles.
subulifer=splendens. Toxorhynchites.
sudanensis=scatophagoides. Mucidus.
sugens. Stegomyia.
suknaensis=imprimens. Ochlerotatus.
superpictus. Anopheles.
superpictus var. macedoniensis=superpictus.
Anopheles.
sylvestris=vexans. Ochlerotatus.

tæniata. Lophoceratomyia. taeniarostris-bitæniorhynchus. Culex. aeniatus=fasciata. Stegomyia. tæniorhynchoides. Ochlerotatus. taytayensis = fuscocephalus. Culex. tenax=bitæniorhynchus. Culex. tenax (Leic.) = sinensis. Culex. var. ocellatus = bitæniorhynchus. tenax Culex. tesselatus = punctulatus var. tesselatus. Anopheles. testacea. Uranotænia. theileri=tipuliformis. Culex.

theobaldi. Anopheles, thomsoni. Stegomyia. thorntoni—punctulatus var. tesselatus. Anopheles. tigripes. Culex. tipuliformis. Culex. tipuliformis. Culex. toxorhynchus—fasciata. Stegomyia. treacheri—aitkeni. Anopheles. trilineatus—mediolineatus. Ochlerotatus. trilineatus—alboannulata. Uranotænia. trimaculatus. Culex. tripunctata. Stegomyia. tritæniorhynchus. Culex. turkhudi. Anopheles.

uncus. Aedes.
uniformis. Aedes.
uniformis. Lophoceratomyia.
uniformis. Mansonioides.
uniformis=brevipalpis. Protomelanoconion.
uniformis=fuscocephalus. Culex.
unilineata=testacea. Uranotænia.
univitatus. Culex.

vagans. Culex.
vagans=vexans. Ochlerotatus.
vagus=rossi var. vagus. Anopheles.
vanus=sinensis var. vanus. Anopheles.
variegatus=albopicta. Stegomyia.
variegatus=annulata. Stegomyia.
variegatus=annulata. Theobaldia.
ventralis=obturbans. Armigeres.
vexans. Ochlerotatus.
viridifrons=fasciata. Stegomyia.
viridiventer. Culiciomyia.
vishnui. Culex.
vishnui (p. p.)=tritæniorhynchus. Culex.
vittatus=sugens. Stegomyia.

w-alba. Stegomyia.

willcocksi=dorsalis. Ochlerotatus.

willmori. Anopheles.

willmori (Leic.)=maculatus. Anopheles.

willmori var. maculosa=willmori. Anopheles.

yerburyi. Aedes.

zonatipes=fasciata. Stegomyia.



